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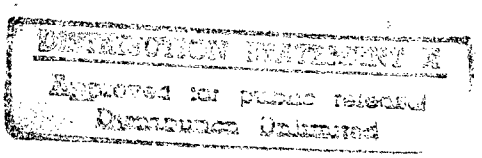
USSR Report

AGRICULTURE



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NOTICE

The following selections from Soviet media on the aftermath of the Chernobyl Nuclear Power Plant accident and the mobilization of labor and technology in the clean-up effort will be published in the series USSR REPORT: POLITICAL AND SOCIOLOGICAL AFFAIRS under the subtitle AFTERMATH OF CHERNOBYL NUCLEAR POWER PLANT ACCIDENT. This is a representative list of the items selected for that report.

MOSCOW INTERVIEWS CIVIL DEFENSE OFFICIAL ON CHERNOBYL CLEAN UP
Moscow Domestic Service in Russian 1430 GMT 19 May 86

MINERS DIGGING TUNNEL UNDER CHERNOBYL
Moscow Domestic Service in Russian 1600 GMT 20 May 86

UKRAINIAN DOCTOR DESCRIBES CONDITIONS IN CHERNOBYL
Moscow LITERATURNAYA GAZETA in Russian 21 May 86 p 10

CHERNOBYL AUTHORITIES PATROL, PROTECT PRIVATE PROPERTY
Moscow Domestic Service in Russian 0700 GMT 21 May 86

CHERNOBYL ROAD BEING WIDENED TO AVOID DUST CONTAMINATION
Moscow Domestic Service in Russian 1500 GMT 21 May 86

MOSCOW, KIEV ESTABLISH FUND FOR PRIPYAT, CHERNOBYL
Moscow Domestic Service in Russian 0815 GMT 22 May 86

TRUD REPORTS ON CHERNOBYL AES CLEAN UP
Moscow TRUD in Russian 22 May 86 p 4

DETAILED ACCOUNT OF CHERNOBYL AES FIRE FIGHT
Kiev LITERATURNA UKRAYINA in Ukrainian 22 May 86 pp 1, 2

DETAILED DESCRIPTION OF CHERNOBYL TOWN, LIFE
Kiev LITERATURNA UKRAYINA in Ukrainian 22 May 86 p 2

UKRAINE FORESTRY MINISTRY OFFICIAL INTERVIEWED
Moscow Domestic Service in Russian 1500 GMT 25 May 86

VOLUNTEERS BUILD DIRECT ROAD TO CRIPPLED CHERNOBYL PLANT
Kiev PRAVDA UKRAINY in Russian 25 May 86 p 3

KIEVAN METRO BUILDERS INSTALL PIPE FOR LIQUID NITROGEN TO COOL REACTOR
Kiev PRAVDA UKRAINY in Russian 27 May 86 p 3

UKRAINIAN HEALTH MINISTER INTERVIEWED
Kiev in English to Europe 1800 GMT 2 Jun 86

DIFFICULTIES FACING CHERNOBYL ZONE EVACUEES CITED
Moscow SELSKAYA ZHIZN in Russian 6 Jun 86 p 3

JPRS-UAG-86-017

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USSR REPORT

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CONTENTS

MAJOR CROP PROGRESS AND WEATHER REPORTING

USE OF INTENSIVE TECHNOLOGY IN CENTRAL CHERNOZEM, NORTH CAUCASUS

Krasnodar SELSKIYE ZORI in Russian No 4, Apr 86 pp 1-2

/Lead article: "In Full Measure"/

/Text/ The sharp turning point being experienced today in the rural areas, following the 27th CPSU Congress, is expressed in the administrative reorganization taking place in all elements of the agroindustrial complex, in improvements in the economic mechanism for management, in the new equipment being delivered to kolkhoz and sovkhoz fields and in the more extensive use of intensive technologies. Regardless of the kray, oblast or autonomous republic in our zones that we refer to, an attempt is being made to attach priority importance to the intensive agricultural technology in all areas, a technology which guarantees a greater return from arable land and stable and high yields of grain. From small experimental tracts occupied initially by intensive sowings, many farms and rayons converted over last year to the cultivation of grain crops using progressive technologies on areas which exceed the experimental fields by a factor of from 2-3 to 10. In the Kuban region, for example, such sowings were expanded to 467,000 hectares, in Stavropol Kray -- to more than 600,000 hectares, in Lipetsk Oblast -- to 130,000 and in Tambov Oblast -- to more than 200,000 hectares. Overall, intensive methods are being employed on almost 2.3 million hectares in the north Caucasus and the central chernozem region. And during the first year of the 12th Five-Year Plan, the mass cultivation of grain crops using this new method will be carried out on almost 5 million hectares.

The potential possibilities of intensive sowings are being manifested very clearly in those areas where creative, thoughtful and thrifty use is being made of those factors which affect the harvest and those agrotechnical measures which bring about the desired increase in output. Here we have in mind first of all the planting of crops following the best predecessor crop arrangements and in a crop rotation system, the cultivation of highly productive varieties of the intensive type, a high level of support in the form of nutritional elements and split applications of nitrogen fertilizers during the growing season in keeping with the plant requirements, an integrated system for providing protection against weeds, pests and diseases, the accumulation of moisture and strict observance of technological discipline on every field throughout the year.

The above describes the thoughtful and intelligent work that should be carried out on the grain fields, work that is typical of those farmers, specialists and

leaders attached to leading farms, of which there are many in each region. Many of them have been mentioned on the pages of our journal and their experience has been studied thoroughly, summarized and disseminated to neighboring kolkhozes and sovkhozes. This applies, in particular, to the Lipetsk Zavety Ilicha Kolkhoz, the Semiluki Kolkhoz imeni K. Marks in Voronezh Oblast, the Kuban Kolkhoz imeni Kirov, the Uvarovo Kolkhoz imeni Lenin in Tambov Oblast, the Kommunisticheskiy Mayak Kolkhoz in Stavropol Kray and the Korenevo Zarya Kommunizma Kolkhoz in Kursk Oblast. Here, from intensive fields, yields are being obtained which are 17-20 quintals greater than those being obtained from conventional sowings and this increase is repaying with interest the greater expenditures for labor and resources.

The entire system of farming and its ability to produce high yields and to maintain soil fertility are actually being regulated by the new technology in use on these farms. And during an extreme year, one does not hear references being made to the inclement weather, since each worker is aware that the new time period requires new work methods and that complicated conditions require more initiative, persistence and diligence in behalf of the harvest. In other words, on such farms preparations are made in advance for impending changes in the weather situation, the peculiarities of the particular period of the year are taken into account and difficulties are overcome with minimal expenditures.

Unfortunately, many kolkhozes and sovkhozes are still not displaying such readiness, energy or ability to cope with inclement weather conditions. Even worse is the fact that in some areas the leaders possess only a weak knowledge of the intricacies of the intensive technology and they apply themselves only formally to the requirements dictated by it. Quite often, the technological parameters are violated. Formalism makes its presence known mainly when determining the intensive areas. Nobody objects: they must be expanded. But when the hectares involve so many problems associated with raising the stability of the grain economy and the supplies of fertilizer, chemicals and equipment allocated for fields on which the intensive technology is to be employed, with only one half of the quantities of these materials being used, then it is difficult to count upon achieving success. Later, such leaders and specialists find all possible explanations for their failures and they are all far from an objective evaluation that would provide an accurate answer to the question as to why it was not possible to achieve the predicted yield.

Owing to these and other reasons, both of our zones turned out to be far removed from the planned goal. At kolkhozes and sovkhozes in the central chernozem zone, the grain yields from fields on which the intensive technology was employed surpassed by only slightly more than 7 quintals the yields obtained from conventional sowings. Fallow fields in Kursk Oblast on which winter wheat was planted produced only 25.7 quintals of grain per hectare and in Voronezh Oblast -- 23.6 quintals per hectare. And on the Voronezh farms, these fields were reduced to a minimum: last year, approximately 300,000 hectares were left fallow and in the spring 120,000 of them were occupied by corn. In Rostov Oblast and Stavropol Kray, the increase in yield from grain fields on which the grain was cultivated using the new method was less than the amount planned by a factor of 2-3.

On many farms, the shortfall in output was so great that there could not be any thought of reimbursement for expenses. In Kantemirovskiy Rayon in

Voronezh Oblast, the intensive sowings were on a par with conventional sowings in terms of productivity, in Rossoshanskiy Rayon there was an increase of only 3-5 quintals of grain per hectare and in Gribanovskiy Rayon the yield was even less than that obtained in former years using the traditional technology. In Krasnosulinskiy Rayon in Rostov Oblast, the entire complex of this progressive agricultural technology was employed on 2,000 hectares and an average yield of 41 quintals was obtained and in Semikarakorskiy Rayon -- only 17 quintals. An explanation for this was furnished by an exacting analysis of the components for low productivity. Inability, ignorance and irresponsibility -- such were the conclusions drawn by the RAPO /rayon agroindustrial association/ when the branch's operational results were summarized. Here, such problems as a disruption in the schedules for planting the seed in the soil, deviations from the norms and schedules for applying fertilizer and neglect in the "diagnosing" of each field were noted.

For the sake of objectivity, it must be confessed that the concern shown for the grain fields was not rewarded in all areas owing to organizational and technical miscalculations. In some areas there was a shortage of mineral fertilizer for use during the principal cultivation of the fields in the autumn, a foliar top dressing was not applied in a timely manner to the crops for the same reason, current inspections and an evaluation of the phyto-sanitary condition of the fields were not coordinated with the calendar-phenological schedules, some agronomists were unable to cope with the abundance of recommendations on the use of herbicides and other chemical means for protecting plants and re-equipped sprayers did not have a high productivity.

The intensive technology, when utilized correctly, serves to guarantee not only high yields but also high quality grain. During the first year following its introduction, an intensified variation of this agricultural technology enabled the Tambov grain growers to produce almost 50,000 tons of valuable wheat. The economic effect at that time amounted to 40 million rubles. Last year, 45,000 tons of valuable grain were obtained in Lipetsk Oblast -- more than twice the amount planned. In 1985, farmers in the Don region, for the very first time, shipped 219,000 tons of strong wheat to the state's granaries. In the case of farms and rayons, the number of them in each oblast and in both krays that met their procurement requirements for strong and valuable grain tripled during these two years.

Since the areas for winter crops cultivated using the intensive technology have been expanded considerably in all areas, the leaders and specialists of kolkhozes, sovkhozes and agroindustrial associations must continue their work of mobilizing the labor collectives towards achieving the plans as outlined. Here we have in mind the fact that the cultivation of grain crops using the new technology is becoming the principal trend with regard to raising the stability of the crops and increasing the production of high quality grain.

"In the future, the party and state will develop the logistical base of the agroindustrial complex in a consistent manner" it was emphasized in the political report by the CPSU Central Committee to the 27th Congress, "But it is equally clear that the chief motive power for progress and its very soul has been and will continue to be man." In other words, each farmer must sense his participation in carrying out the Food Program and he must do everything possible

to ensure that the programmed yield is obtained and that the expenses for intensification are fully repaid in the form of output. Each farm must fulfill the state plans for grain procurements."

It must be remembered that former miscalculations and mistakes and also antiquated operations have cost the state dearly: both of our zones are in great debt to the state in terms of grain deliveries. During the past five-year period, the Kuban region fell short in its deliveries by 2.2 million tons, Belgorod Oblast -- 1.8 million, Kursk Oblast -- 1.9 million, Lipetsk Oblast -- more than 1.6 million and Tambov Oblast -- more than 2.5 million tons. Farmers in the Don region did not make use of the intensive factors, their average annual grain yields declined and they were unable to cope with their purchase plans. The annual average increase in grain production in Stavropol Kray during the 11th Five-Year Plan was only 4 percent, the cropping power of grain crops was raised by only 1.5 quintals and more than one half of the rayons -- or 186 farms -- failed to fulfill their grain procurement plans. These sad facts do not leave any room for complacency or indifference -- particularly when the discussion centers upon such a new development as the introduction of intensive technologies for the cultivation of grain crops, a development that is expected to improve the grain balance during the first year of the 12th Five-Year Plan.

The greatest return from invested resources can be achieved upon one condition: if all those who work on the intensive fields -- from the chief of a RAPO to a machine operator -- continue to learn and to work in an intelligent manner. They must perform in an intelligent and selfless manner and apply all of their knowledge and skill, as is being done by agronomists I. Verbitskiy of the Voronezh Put Lenina Kolkhoz, L. Kolesnichenko of the Rostov Kolkhoz imeni Lenin, M. Astankova of the Lipetsk Kolkhoz imeni Chapayev and V. Larikov of the Medvenka Kolkhoz imeni Zhdanov in Kursk Oblast; by grain growers possessing high professional expertise and innovative nerve such as Kunan brigade leader and Hero of Socialist Labor M. Klepikov, recipient of the USSR State Prize and chief of a mechanized detachment at the Kursk Zarya Kommunizma A. Myagkostupov, brigade leader at the Stavropol Rossiya Kolkhoz M. Goncharov and by all of those numerous contractual collectives where labor productivity on the grain fields, during any year, is higher by a factor or 2-3 and production costs lower than the average for farms and rayons. The number of such collectives must be increased. Towards this end, use must be made of material and moral stimuli and a competition must be organized that will stimulate the activity of farmers and their contribution towards the final result during each stage of work carried out on the intensive fields. Judging by the experience of leading farms, when the non-schedule system is employed the amount of additional payment based upon the final results should ideally be increased in the overall earnings of the grain growers and the payment should not be based merely upon the rates for the products. In the interest of the work, a contract should be based upon cost accounting relationships and the check form of operational control should be employed for expenditures for the intensive technology.

Reorganization efforts out on the grain fields must involve input by the scientific-research institutes. Just as in the past, the field workers expect to receive from them new equipment developments, improved recommendations for the use of fertilizers, for protecting plants against pests and diseases and

for the use of chemical and biological preparations in keeping with local conditions and new intensive varieties. We cannot tolerate a situation in which many institutes are satisfied with producing partial improvements for machines and technologies and prefer to develop recommendations rather than change their essence. In addition, they fail to search for novelty and effectiveness. Effective and meaningful assistance from the scientists is especially needed in connection with the introduction of systems for cultivating the soil and protecting crops and when augmenting the balance of humus and nutrients.

Spring long ago made its presence known in all areas. The first spring of the new five-year plan and a spring for speeding up. Both now and in the immediate future our farmers must do everything possible to ensure that the complete cycle of technological operations is carried out on a timely basis and in a high quality manner on each intensive field and that a high yield is guaranteed. This will be a response, in the form of work carried out, to the decisions handed down during the 27th CPSU Congress and a contribution towards implementation of the Food Program.

7026
CSO: 1824/343

MAJOR CROP PROGRESS AND WEATHER REPORTING

SPRING FIELD WORK IN SOUTHERN UKRAINE DISCUSSED

Moscow PRAVDA in Russian 16 Apr 86 p 2

[Article by V. Vasilets, Odessa, Kherson and Crimea oblasts: "The Field Has No Borders"]

/Text/ Fresh winds stir the young winter crops in the steppe regions of the Prichernomorye area, the Dnepr expanses and fields in the Crimea. The southern oblasts of the Ukraine constitute the republic's chief grain region. This year the Odessa, Kherson and Crimean grain growers have vowed to produce 7 million tons of grain.

The largest grain field is in Odessa Oblast. Wheat alone is being grown using the intensive technology on 240,000 hectares -- a considerably larger area than last year. It is expected that these sowings will produce an average of not less than 40 quintals of grain per hectare from strong and valuable varieties.

"Roughly the same yield was obtained last year from fields on which intensive methods were employed," stated the head of the Department of Agriculture and Food Industry of the oblast party committee, G. Chichkan. "Thus the experience required has been accumulated. The mastering of progressive methods has been assigned to contractual collectives. There are more than 1,500 of them."

It is obvious that a new innovation is not productive of and by itself, but rather it requires diligent and spirited work on the part of people. For example, the workers in Odessa Oblast strive to carry out their sowing work during the best periods. The workers in Bolgradskiy Rayon, for example, required only 48 hours for planting their grain crops on more than 6,000 hectares.

The Kolkhoz imeni Kirov, headed by delegate to the 27th CPSU Congress D. Motornyy, has become a true academy for wheat cultivation using the intensive technology. Fifty quintals per hectare are being harvested here during all types of weather. It is unfortunate that neighboring farms are only weakly and slowly absorbing this leading experience.

This past autumn the decision was made to cultivate almost one half of the winter crops in Kherson Oblast using the new method. The fields were fertilized and sown following the best predecessor crop arrangements. The

grain growers were pleased by the appearance of an emerald green carpet. And resowing was not required -- the entire area of wheat endured the winter cold. This then is the true meaning of high technological discipline!

The workers in Crimea Oblast have withstood the first serious test during the busy spring period. A certain portion of the winter crop fields had to be resown. At the same time, spring crops had to be planted on almost 100,000 hectares. Corrections had to be introduced into the plans on an urgent basis and around-the-clock operations organized. And here there was also hot weather which dried out the arable land. It seemed that the people accomplished the impossible. All of the spring crop fields were cultivated within a matter of two days and in Simferopolskiy, Krasnogvardeyskiy and Kirovskiy rayons -- within 24 hours.

This year the workers in Crimea Oblast are striving to obtain a yield of 30 quintals. An increase of 5 quintals must be achieved above the figure for last year.

It was in Ivanovskiy Rayon in Kherson Oblast that we met with the deputy chief of the Department of Field Crop Husbandry of the oblast agroprom N. Kotlyar. Nikolay Mikhaylovich served as the chief agronomist at the Bilshovitskiy Nastup Kolkhoz in Velikoaleksandrovskiy Rayon fpr 20 years. He was awarded the title of Hero of Socialist Labor. He willingly accepted work on the agroindustrial committee. An experienced field technologist, he dislikes office type work. He worked for three days at the Chapayevskiy and Ivanovka sovkhozes. Here the machine operators tolerated a pause between the moisture retention work and the planting of seed and the sowing machines were poorly adjusted. Kotlyar furnished assistance in organizing a flow-line cyclical operation of units and he did not move to another rayon until an improvement was noted in the quality of the sowing work.

Moreover, some of the agroprom specialists have a different understanding of reorganization. In the Baltskiy RAPO /rayon agroindustrial association/ in Odessa Oblast, on the eve of the sowing work, seminars were conducted and plans and technological charts were prepared. From a formal standpoint, everything appeared to be correct. But, as the saying goes, it was smooth on paper. No concern was evidenced regarding the organization of the work. At the Kolkhoz imeni Dzerzhinskiy, three sowing units were assigned to a tiny field. One tractor could scarcely turn around. And an entire detachment was available when a need existed only for one crew.

A fertilizer problem arose during the peak of the sowing work. The fertilizer was not delivered to the farms in a timely manner; storehouses are not available in all areas.

The front of the busy period of spring work is shifting to the rice checkplots and to the sunflower, soybean and vegetable plantations. The farmers are fully resolved to maintain the pace of the campaign. They intend to do this without respite and without the slightest weakening in their efforts. Unless they do so, an acceleration will not be achieved.

7026
CSO: 1824/312

MAJOR CROP PROGRESS AND WEATHER REPORTING

REPORT ON PREPARATIONS FOR SOWING CAMPAIGN IN KIRGHIZ SSR

Moscow TRUD in Russian 12 Apr 86 p 1

[Article by V. Bugayev, TRUD correspondent, Kirghiz SSR: "The Field Must Be Generous"]

[Text] The long-awaited warm weather arrived at the fertile Chu Valley in Kirghizia. After the snow falls and freezing weather in March, which are unusual for these places, the emerald grass in river flood plains grew luxuriantly and apricots began to break into white and pink blossoms. Work on fields began. Farmers in Issyk-Atinskiy Rayon in only a few days sowed barley, oats, and peas and carried out the spring cultivation of winter wheat. At the concluding stage of the sowing campaign they placed corn and lucerne seeds in well-warmed soil at high rates.

On the Kolkhoz 40 Let Oktyabrya every year before the beginning of every sowing campaign the trade union committee and the administration hold a kind of seminar. Farm specialists appeared before field crop growers. They discussed the characteristics of the technology of performance of field work connected with the whims of this spring, the wage procedure, and technical support, and dwelled on problems concerning the production way of life. Then the parting words of veterans to young kolkhoz members were heard, flowers were presented to the best machine operators, amateur artists performed favorite songs in their honor, and the following command resounded: "To machines!"

Tractor operators Viktor Mor, Tasim Dairov, Ivan Fedoseyev, and Geysar Iva from the first tractor field brigade moved their sowing units. The cultivation of more than 700 hectares of fodder crops was entrusted to this brigade. Brigade leader Anvar Eminov and Umeraly Varshakidze, chief agronomist of the kolkhoz, are satisfied with the coordinated actions of tractor operators. Everything is in order: The prescribed depth is maintained, seeds are placed in soil reliably and strictly according to sowing standards, and skimped patches are not allowed--fine work!

"The present front of the sowing campaign had to be prepared under the most difficult conditions," A. Eminov says. "We tried to utilize literally every small 'window.' which nature has allotted to us, for the preparation of fields. As early as March we harrowed fields in two tracks, carefully leveled, graded, and cultivated soil, and applied fertilizers and herbicides before the beginning of sowing. Now it is necessary to carry out sowing and packing in a high quality manner in the shortest time--3 or 4 days. Only under this condition is it possible to obtain a rich harvest."

11439
CSO: 1824/290

MAJOR CROP PROGRESS AND WEATHER REPORTING

REPORT ON SPRING FIELD WORK IN KIRGHIZ SSR

Moscow PRAVDA in Russian 14 Mar 86 p 2

[Article by S. Karpov, associate at the Kirghiz SSR State Committee for Television and Radio Broadcasting, and Yu. Razgulyayev, PRAVDA correspondent, Kirghiz SSR: "Tractors on Fields"]

[Excerpts] Machine operators on many of the republic's farms moved units to fields precisely during the days of work of the 27th CPSU Congress. Their striving to cope with the task set in the political report of the Central Committee, that is, to increase land fertility and to create all the conditions for a stable management of agriculture, is understandable. Field work is being carried out harmoniously and in an organized manner in Alamedinskiy, Sokulukskiy, and Moskovskiy rayons. The topdressing of winter crops and perennial grass has already been completed here.

"The weather is very unstable," V. Maul, link leader on the Krasnyy Oktyabr Kolkhoz in Moskovskiy Rayon, said. "We are trying to utilize every hour in order not to delay sowing and to place grain in warm wet soil."

The machine operator did not mention moisture by accident. Its amount in soil is lower than usual. However, if the most favorable time is not missed, good shoots can be obtained.

Nor do seeders leave fields on other farms in Moskovskiy Rayon. The rayon's field crop growers plan to sow all the 22,000 hectares in 5 or 6 work days. But farms in Osh Oblast still lag.

As a rule, people cope better with work where they have mastered the collective contract. About 4,000 brigades and links--much more than during the last five-year plan--will now work on the basis of full cost accounting in farming alone. Many of them are engaged in the cultivation of corn and fodder crops. They should make a substantial contribution to the successful fulfillment of the high obligations adopted by the republic's farmers for the first year of the 12th Five-Year Plan.

11439
CSO: 1824/290

MAJOR CROP PROGRESS AND WEATHER REPORTING

NEGLECTED FARMING IN CHIMKENT OBLAST CRITICIZED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 31 Oct 85 p 1

[Article by Yu. Livinskiy, KAZAKHSTANSKAYA PRAVDA correspondent, Chimkent Oblast]

[Excerpts] Farmers in South Kazakhstan are sowing winter grain crops. Under local conditions they produce a higher harvest than that produced by spring crops. Therefore, the bulk of the cereal crops is usually placed here in the fall.

In the oblast winter crops will now have to be sown on more than 400,000 hectares. They have already been placed on most of this area. Mineral fertilizers are applied to rows together with seeds almost everywhere.

Farms in Lengerskiy, Saryagachskiy, Tyulkubasskiy, and Sayramskiy rayons are sowing winter crops in a rush manner. Unfortunately, this is not the case everywhere. In the last few years, for example, farms in Leninskiy Rayon, owing to the lack of organization and poor utilization of equipment, have dragged out soil cultivation and sowing, as a result of which the yield of cereal crops is declining constantly. Here, as in Turkestanskiy, Kalesskiy, and Chardarinskiy rayons, the rates of the sowing campaign are now very low.

Farming is in a neglected state in Algabasskiy Rayon. Basic agrotechnological requirements are violated here year after year--crop rotations are mastered slowly, fallow is underplowed, the fallow that is plowed is not cultivated, and low-quality seeds are prepared. Even now seeds have not yet been fully stored here. As yet there are no first-category seeds at all. The insurance stock comprises slightly more than one-half of the assignment. On the Sovkhoz imeni Dzhambul, on the Algabasskiy Sovkhoz, at the rayon specialized farm association, and on a number of other farms sowing equipment has not been adjusted properly. Presowing soil cultivation and sowing are carried out poorly. According to the data of the check conducted by specialists of the oblast agricultural administration, owing to the poor placement of seeds, almost one-third is on the surface. Such facts are intolerable.

11439
CSO: 1824/290

MAJOR CROP PROGRESS AND WEATHER REPORTING

SNOW MOLD IN BELORUSSIAN CROPS

Minsk SELSKAYA GAZETA in Russian 8 Apr 86 p 1

[Article by A. Mikhaylov: "In Captivity to Snow Mold"]

[Text] Belorussian SSR Gosagroprom [State Agricultural Industry] made a spot check of the state of winter crops at the kolkhozes and sovkhozes of Novogrudskiy, Slonimskiy, Zelvenskiy and Dyatlovskiy rayons. In many places severe snow mold damage to the rye and wheat seedlings was established. This was particularly observed on small sections near the edges of the forests and undergrowth.

Science and advanced practical work recommend, in such cases, prompt breaking down of the ice incrustation and the settled snow with trailer implements. The fields should be sprinkled with peat dust for rapid snow thawing. Now, however, the duty of the agronomists is efficient organization of harrowing the winter crops damaged by snow mold and top-dressing them with nitrogen fertilizers.

Some 40 to 80 percent of the intensiveness of the damage to the winter crops occurs at the 18 Partsezd Sovkhoz and the Kolkhoz imeni Lenin in Zelvenskiy Rayon. V. Tutin, senior agronomist of the Belorussian SSR Gosagroprom, after making a test at these farms, exposed multiple focal vegetation destruction at the Yelka brigade of the 18 Partsezd Sovkhoz. However, due to the inefficiency of V. Zherbun, director of the state farm, and P. Nekrasov, chief agronomist, the winter crop daily weedings were not harrowed and they were not top-dressed with fertilizer. The rayon's plant protection service has no information: where and how many seedings were damaged by snow mold.

The winter crops at the Oktyabr Kolkhoz in Slonimskiy Rayon, imeni Mayakovskiy Kolkhoz in Novogrudskiy Rayon and Pobeda Kolkhoz in Dyatlovskiy Rayon are in a similar situation. The intensiveness of the snow mold damage to rye and wheat here is from 35 to 70 percent. There are fields where the vegetation has perished. Unfortunately, the plant protection service in some places and the agronomists of the kolkhozes and sovkhozes neglected this work.

12151
CSO: 1824/318

MAJOR CROP PROGRESS AND WEATHER REPORTING

BELORUSSIAN CROP SURVEY; WARM WEATHER PUSHES CROPS

Minsk SELSKAYA GAZETA in Russian 30 Apr 86 p 1

[Article: "Weather and Sowing"]

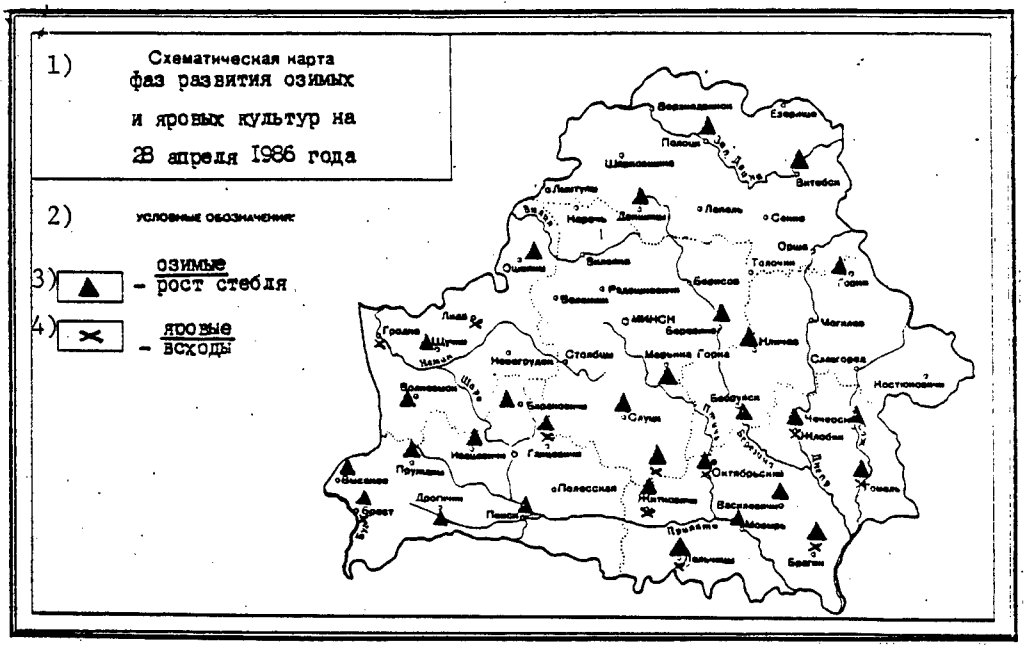
[Text] The latter weeks of April in the republic were unusually warm. The thermometer in the daytime rose to 20-25 degrees. Field work was continued at full speed. The soil was moderately moist everywhere and heated up to 11-16 degrees to a depth of 10 centimeters.

The abundant warmth accelerated the development of the agricultural crops. The stalk-growth of winter rye in the republic's northern rayons started approximately a week ahead of usual. The shoots of early apple trees planted before 20 April appeared. The appearance of the third leaf was noted in the southern rayons in the plantings of the first five-day-period of April. The grass is growing up in the meadows and pastures. They are at a height of 10-15 centimeters and in the northern rayons--about 5 centimeters. This is close to last year's level. In the fruit trees in the southern part of the republic the leaves are opening up and in some places one can see the buds separating out in the apple and pear trees. Their clusters are continuing to open up in the rest of the territories. The cherry trees are beginning to blossom in the far south of Gomel Oblast.

The kolkhozes and sovkhozes of Stolinskiy Rayon have already completed the sugar-beet planting throughout the area. On the farms of Luninetskiy and Brestskiy rayons they have sown over 50 percent of the plan. The sugar-beet growers of Zelvenskiy, Ivatsevicheskiy, Volkovysskiy and Stoltsovskiy rayons, which are planting less than 15 percent of the plan, are being included in this work with unjustifiable slowness. On farms in the Berezovskiy, Drogichinskiy, Zhubinkovskiy, Ivanovskiy, Mostovskiy, Shchuchinskiy and Kopylskiy rayons less than a third of the sugar-beet fields have been planted. To complete the sowing in the optimal periods established by the schedule, the republic's beet growers must double the field-work rates.

Every year the kolkhozes and sovkhozes of Lyakhovchiskiy Rayon obtain high yields of flax fiber of 9.5-10.2 quintals per hectare. Already here more than 90 percent of the area has been planted with this crop. In the republic's southern region the optimal sowing periods for flax are already finishing.

Farms in Baranovichskiy, Pruzhanskiy, Rechitskiy, Braginskiy, Buda-Koshelevskiy, Soligorskiy, Nesvizhskiy and many rayons in Grodno Oblast are lagging behind with flax sowing. Flax planting must be completed at the farms of Brest and Gomel oblasts and its rates must be sharply intensified in Vitebsk and Mogilev oblasts.



1) Schematic Map of the Developmental Stages of Winter and Spring Crops on 28 April 1986

2) Conventional Designations: 3) Winter Stalk Growth 4) Spring Shoots

In the southern and central parts of the republic the optimal periods for top-dressing the meadows are passing. In a whole series of rayons in Gomel, Brest and Grodno oblasts, however, a considerable part of the areas has not been top-dressed. Their top-dressing must be completed immediately. Every measure must be taken so that the bottom-land hayfields and pastures, as they become dry, are also treated with mineral fertilizers in the next few days.

Sowing spring rape to grain is going slowly on farms in Brest, Minsk and Mogilev oblasts. Also being delayed here is the planting of spring ears to grain with undersowing of bean components as well as undersowing of perennial grasses in a number of rayons in Brest, Grodno, Minsk and Mogilev oblasts. This work should be accelerated.

In Brest and Gomel oblasts, as well as in the southern rayons of Minsk, Grodno and Mogilev oblasts, the time has come to carry out the second top-dressing of

winter grain crops and to treat them with retardants. All available equipment must be included to carry out this work.

In sowings of spring grain and leguminous crops, particularly on cohesive soils and where sediment has separated out and a soil crust has formed, to break it up with a view to combating weedy vegetation, there must be pregermination harrowing, and where this has not been done it must be organized along the shoots when the plants reach the three-leaf stage--the beginning of tillering.

12151
CSO: 1824/318

MAJOR CROP PROGRESS AND WEATHER REPORTING

WEATHER, CROP CONDITIONS IN BELORUSSIAN SSR

Minsk SELSKAYA GAZETA in Russian 7 May 86 p 1

[Unattributed article: "Weather and Crops"]

/Text/ Following unusually warm weather, observed during the last week in April, a cold snap struck Belorussia. During the first 5-day period in May, the average daily air temperature amounted mainly to 7-10 degrees (1-4 degrees colder than usual and the maximum temperature on a large portion of the territory did not exceed 13-18 degrees. The nights were very cold. The air temperature fell to 1-5 degrees and in some areas -- to -2 and -3 degrees. In a majority of the rayons, up to 0-4 degrees of frost were noted and on drained peat bogs -- up to 5-9 degrees.

As a result of the exceptionally warm weather during the third 10-day period in April, the total amount of effective heat in excess of + 5 degrees at the present time exceeds the norm by 50-100 degrees and amounts to 100-200 degrees.

Just as in the past, the plants are developing in an accelerated manner. Stalk growth continues in the winter crops. The spring crops sown during the last 5-day period in April have sprouted. The third leaf has appeared in sowings carried out prior to 20 April. Orchards in the southern half of the republic blossomed 7-12 days earlier than the average established over a period of many years. The opening of leaves and buds is taking place over the remaining territory.

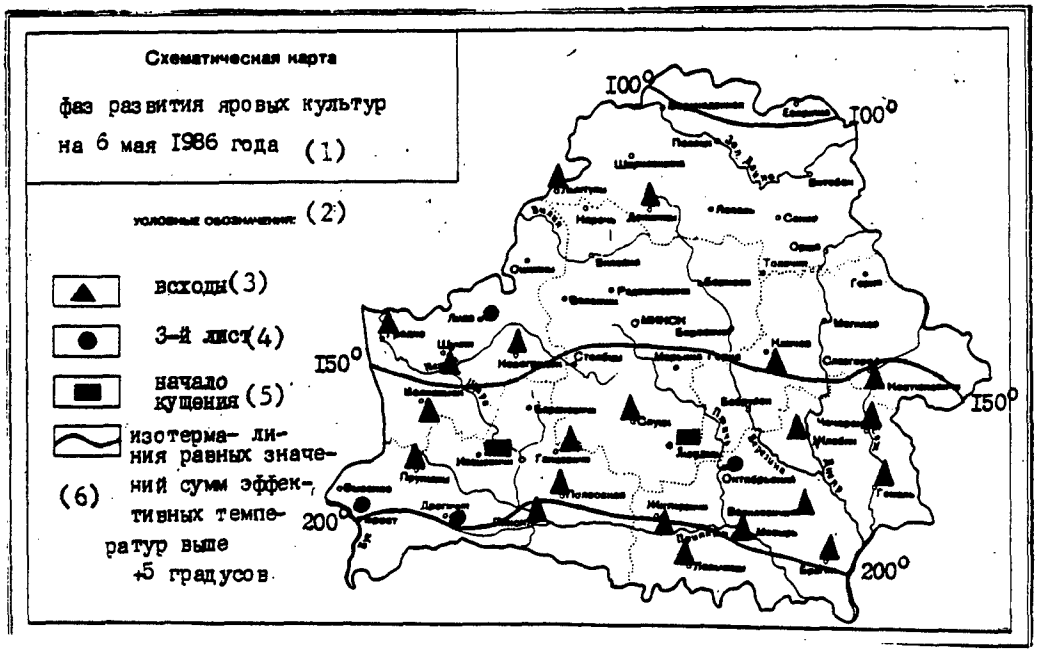
A predominance of dry weather brought about the drying out of the upper layer of light-textured soils in the southern portion of the republic. The soil temperature at a depth of 10 centimeters was 10-15 degrees.

The optimum sowing periods for flax are coming to an end in the northern and eastern regions of the republic. The farms in Braslavskiy, Glubokskiy, Lioznenskiy, Miorskiy, Chashinskiy, Krupskiy, Logoyskiy, Goretskiy, Mstislavskiy and Shklovskiy rayons are carrying out this work at low rates. The sowing rates must be accelerated and this work must be completed in all areas within the next few days.

In the southern and central zones, the flax sowings are becoming infested by the flax flea. Thus border treatments are required and in the event there are more

than 20 insects per square meter -- extensive and complete treatements should be carried out on the sowings.

The kolkhozes and sovkhozes in Brest and Gomel oblasts have practically completed their planting of potatoes. This work is being carried out at extremely low rates on farms in Vitebsk Oblast and also at kolkhozes and sovkhozes in Mstislavskiy, Goretskiy, Shklovskiy and some other rayons in Minsk and Grodno oblasts. The chemical disinfection of seed potatoes is not being carried out on all farms in Minsk and Vitebsk oblasts. The potato planting rates must be increased and especially on farms in Mogilev and Vitebsk oblasts. The planting must be carried out using only chemically treated tubers.



Key:
1. Schematic chart of developmental phases for spring crops on 6 May 1986
2. Arbitrary designations
3. Seedlings
4. Third leaf
5. Commencement of tillering
6. Isothermal line of equal values for the total amount of effective temperatures in excess of + 5 degrees

The species structure of the weeds in spring grain crop sowings must be determined and pre-seedling and post-seedling harrowing must be organized. On sectors which were sown early, where the plants have reached the tillering phase, a top dressing of nitrogen fertilizer must be applied based upon the results of plant diagnostics, with this operation being combined, to the degree that it is possible to do so, with chemical weed control operations.

An inspection of the pulse crop sowings must be carried out, those sectors requiring chemical weed control work should be defined, the preparations and dosages for chemical usage should be established and the carrying out of this work must be organized. On pea sowings which were sown in pure form, simasine

(0.5-0.75 kg per hectare) is employed prior to the seedlings, prometrin (1.5-2 kg per hcetare) or sitrine (1.25-1.5 kg per hectare). In pure and mixed sowings of vetch, use can be made prior to the seedlings of prometrin (0.6-0.8 kg per hectare) and on lupine sowings prior to the seedlings -- prometrin (1.5-2 kilograms per hectare), simazin (0.5-1.0 kg per hectare) or sitrine (1.2-1.5 kg per hectare). Chemical weed control work in behalf of pulse crops should be skilfully combined with pre-seedling harrowing.

The seed plants for timothy grass are in the early shooting phase throughout the entire republic, with the exception of the rayons of Vitebsk Oblast. This is the most vulnerable phase for infestation of the timothy seed plants by the timothy ear fly. The numbers of the pest in a number of rayons in Brest, Gomel, Mogilev and Minsk oblasts exceeds the threshold (threshold -- 30 flies per unit of count) and amount to 40-90 flies. The chemical treatment of the timothy sowings must be started in conformity with signals received from the signalization points and the forecasts.

The existing weather-climatic conditions require efficient actions by the land reclamation specialists and land users in connection with the preparation and inclusion in the work of all available sprinkling equipment and irrigation systems. Less than 50 percent of the available irrigation systems have been prepared for watering on farms in Grodno, Minsk and Mogilev oblasts.

At the present time, the chief obligation of workers associated with the operation of land reclamation systems (MUOOS) is to ensure the inclusion in operations in all areas of all sprinkling equipment, especially on soils having a light mechanical structure. A priority task of MUOOS is that of accumulating water and regulating the moisture content of drained lands through the intelligent operation of hydraulic engineering installations.

7026
CSO: 1824/331

MAJOR CROP PROGRESS AND WEATHER REPORTING

PEST FORECAST FOR BELORUSSIAN SSR

Minsk SELSKAYA GAZETA in Russian 11 May 86 p 3

/Article by Ye. Kolonitskaya, head of the republic's laboratory for forecasts and diagnostics and N. Kharchenko, head of a laboratory for forecasts of BelNIIZR: "Forecast of the Appearance and Range of Agricultural Pests in the Belorussian SSR for the 2nd 10-day Period in May"]

/Text/ The flight of Swedish flies continues out on the plantings of spring grain crops (barley, oats). With an increase in the air temperature above 17 degrees, the laying of eggs by the pest was noted. If the favorable weather conditions continue, the pest may cause considerable damage to the spring crop plantings, which were sown during the optimum periods for sowing in the central and northern zones.

In the northern regions of the republic, the timothy seed plants are vulnerable to the timothy ear fly during the shooting phase. As revealed by the data from various studies, the numbers of the pest are increasing daily. Based upon the annually high percent of damage to the spike-like panicles (11-20 in some areas and up to 50 in others), a need exists for establishing control over the numbers of timothy ear flies and for carrying out chemical treatment of the seed plants when the density reaches 30 flies per 100 sweeps of a net.

As they appeared in Vitebsk Oblast and the northern regions of the central zone, the flax seedlings became infested with flax flea-beetles. Protective measures should be carried out once the threshold number of specimens is reached (20 or more per square meter).

In Brest and Gomel oblasts, the infestation of sugar beet seedlings by opaque carrion beetles and flea-beetles has commenced. By the end of a 10-day period, the seedlings will appear in the more northern regions. The damage caused by the opaque carrion beetles may increase in connection with the appearance of the pest's larvae. The mentioned insects are especially dangerous during dry hot weather during the initial period of plant growth -- from the commencement of seedlings to the appearance of 2-3 leaves. During the middle and towards the end of the 10-day period, the flight and egg-laying of the spinach leaf miner will commence. Strict control is required over the beet plantings.

The cruciferae family fleas, the spring cabbage maggot and the cabbage snout beetle continue to cause damage to early varieties of cabbage which have taken root in the central and northern regions of the republic, to late ripening

cabbage in the southern zone and to the seedlings of cruciferae family forage crops. Increased attention must be given to the plantings and treatment work must be organized when the threshold density of one of the mentioned pests is reached.

In the case of winter grain crops cultivated using the intensive technology, especially winter wheat, fungicide treatments should ideally be carried out during the shooting - heading phase when powdery mildew appears on the third leaf from the top.

7026
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MAJOR CROP PROGRESS AND WEATHER REPORTING

WINTER WHEAT PESTS IN ODESSA OBLAST DISCUSSED

Moscow ZASHCHITA RASTENIY in Russian No 4, Apr 86 p 33

/Article by P.I. Susidko, Academician at the All-Union Academy of Agricultural Sciences imeni V.I. Lenin and A.G. Makhotkin, senior scientific worker at the Izmail Experimental Station of the All-Union Scientific Research Institute of Corn: "Grain Flies on Winter Wheat"/

/Text/ In the southern part of Odessa Oblast, a trend has been noted towards a change in the specific structure and degree of harm caused by grain flies. According to materials provided by the Izbail Experimental Station and the Tatarbunary Station for Signaling and Forecasts, in the late 1950's winter wheat sustained damage here caused mainly by the Hessian (especially in spring) and to a lesser degree by the Swedish flies. In 1962 a decline commenced in the numbers of Hessian flies and during the subsequent period of more than 20 years the population of this pest has remained at a low level.

The wheat fly (Phobia securis), which appeared earlier only in the spring, has adapted to autumn propagation on winter wheat seedlings. Having taken up a new ecological niche, it has rid itself to a considerable degree of natural enemies and during the 1962-1964 period it appeared as the dominating species among the dipterous concealed-stalk wheat pests. Distinct from other insects, it can pose a threat not only to early sowings but also to crops sown during the best periods. The wheat fly, during both the autumn and the spring, usually accounts for more than one half of the harm inflicted upon wheat by grain flies.

The negative significance of the Swedish fly has increased somewhat; it appears annually in the crop rotation plans in appreciable quantities. During the autumn, it damages mainly the plants of early sowings which have not thickened out fully. Of all of the grain flies which are harmful to crops, the Swedish fly is apparently the most flexible and resistant strain with regard to changes in environmental conditions. The past 3 years have been characterized by hot weather during the autumn and this has led to a noticeable reduction in the harm caused by the wheat fly, while the damage caused to sowings by the Swedish fly has on the other hand increased.

Commencing in 1980, the propagation of the Ph. haberlandti species and the wheat Opomuza florum fly, which resemble the wheat fly, was noted. The density of the populations and the negative significance of these two species

are not very great at the present time. The green-eyed fly and the Meromyza saltatrix fly are also being observed in sowings in small numbers of no practical value. The winter fly is absent in the southern part of Odessa Oblast.

The present reorganization of the biology of dipterous winter wheat pests underscores the fact that they can adapt very readily to changing environmental conditions. This should be taken into account when implementing improvements in the prophylactic and protective measures.

7026
CSO: 1824/312

MAJOR CROP PROGRESS AND WEATHER REPORTING

BELORUSSIAN CROP PEST TREATMENT

Minsk SELSKAYA GAZETA in Russian 30 Apr 86 p 3

[Article by Ye. Kolonitskaya, head of the Republic Laboratory of Diagnostics and Forecasting, and N. Kharchenko, head of the Forecasting Laboratory for the Bellorussian Scientific Research Institute of Plant Protection: "A Forecast of the Spread of Pests and Diseases of Agricultural Crops and Their Development in the First Ten-Day-Period of May 1986 Throughout the Belorussian SSR"]

[Text] The unusually warm weather in the third ten-day-period of April contributed to the mass emergence of many pests in agricultural sowings and plantings.

At present, in contrast to preceding years, the mass blight of the fruit fly coincided with the appearance of spring crop shoots. In the southern regions of the republic this produced the threat of damage to the plantings by the fruit fly, the number of which in Brestskiy, Maloritskiy, Pinskiy, Khoyninskiy and other rayons is approaching threshold level, and in some sections of early sprouting is exceeding it.

If the warm weather continues in the first ten-day-period of May, the pest will also present a danger to the barley plants in the central zone and to early plantings of it in Vitebsk Oblast. There must be strict monitoring of the number of flies and when the threshold is reached (19-35 specimens), depending on the harvest plan (25-45 quintals/hectare) there must be insecticide treatment, and in sections where the three-leaf stage and a great deal of weediness is observed, this must be combined with herbicides.

In Brest, Gomel and the southern rayons of Minsk and Mogilev oblasts the optimal period has arrived for combating the complex (sucking and leaf-gnawing) orchard pests, the number of which, particularly of moths and apple moths, is high everywhere. This is a year of ascopore scabs and infections of the young leaflets of fruit trees. Here one must proceed with combined (insecticide-fungicide) treatment.

On the rest of the territory these periods for carrying out chemical protection work will come at the end of the first ten days.

Everywhere in the seed plots one can observe the cabbage infested with cruciferae fleas, cabbage seedstalk snout beetles and cabbage maggots, as well as cabbage set out in the open soil. These pests are particularly harmful in warm dry weather. A great deal of damage has been done to the cabbage seed beds in recent years by the seedstalk snout beetle, which can cause mass destruction of plants, as was observed in 1985 at a number of vegetable-growing farms in Minsk Oblast. When snout beetles and 0.2-0.3 beetles per square meter and cruciferae fleas are detected in the plantings, insecticide treatment must be carried out.

Flax fleas will endanger the flax plantings in the first ten days of May. The pests usually accumulate along the edges of the fields. In order to keep the flea population away from the planting, for 1-2 days before sprouts appear or during the period when they start to appear and they are settling in, it is expedient to treat the edges with insecticide. When the number of fleas is 20 and more per square meter in hot dry weather the plantings should be treated uniformly.

12151
CSO: 1824/318

MAJOR CROP PROGRESS AND WEATHER REPORTING

PEST FORECAST FOR UKRAINIAN FRUIT CROPS

Minsk SELSKAYA GAZETA in Russian 6 Apr 86 p 1

[Article by Ye. Kolonitskaya, head of the Republic Laboratory for Forecast of Pests and Diseases of Belsel'khozkhimiya: "For the Attention of Farmers!"]

[Text] An analysis of the data on the distribution of fruit crop pests for several years has shown that in the republic's orchards an accumulation of fruit mites, Geometridae, leaf roller moths, apple moths and other pests is in progress. Their death this winter was insignificant: 6-15, maximum 30 percent.

An over-threshold number of leaf-miners is observed in the orchards of Kryglyanskiy, Slavgorodskiy, Goretsniy, Mogilevskiy, Klimovichskiy, Gantsevichskiy, Zhabinkovskiy and Ivatsevichskiy rayons. About 23 percent of the area of the orchards inspected in Borisovskiy, Vileyskiy, Minskiy, Glubokskiy, Lidskiy and Gomelskiy rayons was Psylla-infested 1.5-2-fold over threshold level. Naturally, an even heightened pestilence of these insects should be expected here.

Attention must also be turned to the fact that in the orchards, 50-70 percent of last year's leaves have scab perithecia. Ascospore is forming in the southern and central zones of the republic. This means that the optimal period has arrived for extermination spraying. Farms in Gomel and Brest oblasts have already set to work on this. In the next few days of this period the rest of the republic's territories will take on this task.

Extermination spraying with a 3-4 percent solution of nitraphene is effective against apple moths and the rot of hibernating eggs, Psylla, scale insects and fruit mites. It partially kills caterpillars of the apple moth, certain leaf roller moths and the eggs of Geometridae and other pests.

In orchards where extermination spraying was not planned, in the "green cone" phase, blue spraying with a 3-4-percent solution of Bordeaux mixture must be carried out, and in the bud detachment--combined treatment using a mixture of insecticides and fungicides against hatching pests and apple moths.

The start of hatching and blight-carrying of sucking pests in the republic's southern rayons is expected in the second ten-day-period of April.

A tuber analysis shows that practically all the potato batches have diseased tubers and are damaged by phytophthora infection, scab, wire stem and brown patch.

In order to reduce the fungal and bacterial diseases and their spread the tubers must be sorted, seeds must be treated before planting by one of the following preparations: kuprozan--0.5 kg, tsinev--0.5-1.00 kg/t, TMTD [tetramethylthiuram disulfide]--2.1-2.5 kg/t and the tuber rejects and potato pit rejects must be disinfected with a 5-percent solution of blue vitriol or nitraphene with a replowing following afterwards. When the early varieties of potatoes are planted there must be adherence to their spatial isolation from the middle-ripening and late-ripening varieties.

Specialists from centers in Klimovichskiy, Pimskiy, Brestskiy, Knoynikskiy, Braginskiy, Rechitskiy and Soligorskiy rayons have noted the yield and nourishment of mousetype rodents in the winter grain crops along the edges of the fields. The winter was satisfactory for the rodents, and therefore inspection of the orchards and the winter grain crops, perennial grass must be organized and protective measures taken.

12151
CSO: 1824/318

MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

WINTER CROP TOP DRESSING--Kursk--Today the machine operators of kolkhozes and sovkhozes in Kursk Oblast commenced applying a top dressing to their winter crops. In many areas, the application of nitrogen fertilizers is being combined with operations aimed at breaking up the icy crust which formed over considerable areas. /Text/ /Moscow TRUD in Russian 25 Mar 86 p 1/ 7026

FERTILIZER APPLIED--Kursk, 3 Apr--As the snow cover disappears from the fields, a top dressing is being applied to the winter crops. The aircraft of agricultural aviation have joined in the work and ground equipment is being employed during the period of early morning frosts. The farmers intend to apply a top dressing to the principal portion of their winter crops using the more effective root method. Towards this end, more than 2,000 sowing machines have been prepared. They are being placed in operation just as soon as the condition of the soil makes it possible to do so. Fertilizer is being applied to all of the remaining winter crop sowings. /by A. Trubnikov/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 4 Apr 86 p 1/ 7026

SPRING FIELD WORK--The spring field work is being carried out at high rates in Kursk Oblast. This year this work has been complicated by the fact that some areas had to be resown -- during the snowless winter, a portion of the winter crops and perennial grasses fell victim to winter-kill. At the present time, the machine operators in Oboyanskiy Rayon are leading the work, with especially fine work being performed at the Kolkhoz imeni Engels. In all, this year the Kursk farmers must sow more than 190,000 hectares of sugar beets and approximately 1 million hectares of grain crops. /by N. Vladimirov/ /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 10 Apr 86 p 1/ 7026

BUCKWHEAT SOWING COMPLETED--Lipetsk--The sowing of buckwheat has been completed on farms in Lipetsk Oblast. The intensive technology is helping the farmers to increase substantially the productivity of this crop. Cost accounting collectives are applying fertilizer using the experience accumulated out on the wheat fields. For the purpose of pollinating the crops, the plans call for beehives to be set up along the edges of fields. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 30 May 86 p 1/ 7026

PROGRAMMED YIELD--Commencing with the very first days of spring, concern has been displayed in Lipetsk Oblast for the intensive fields. Winter wheat alone is planted on up to 200,000 hectares of these fields. In order to obtain a programmed yield, the machine operators at the Kooperator Sovkhoz in Dobrinskiy

Rayon twice carried out winter snow retention work out on certain tracts. At the present time, a top dressing of mineral fertilizer is being applied to the sowings. Aircraft are flying over the intensive fields in Zadonskiy Rayon. The pilots of the team headed by A. Filipchuk, who work at the Ulyanovskiy Sovkhoz, are carrying out 45 flights daily. /by A. Pyatunin/ /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 10 Apr 86 p 1/ 7026

CONCERN FOR FALLOW--Voronezh, 26 May--Simultaneously with tending their crops, the Voronezh farmers are carrying out work on their fallow land, of which there are more than 200,000 hectares throughout the oblast. They will be used for winter crops which are to be cultivated using the intensive technology. A fine example is being set by the farms in Anninskiy Rayon, where tending of the fallow commenced immediately following the completion of sowing operations. At the kolkhozes imeni Lenin, Druzhba, Pobeda Oktyabrya and imeni Kirov and also at the Novaya Zhizn Sovkhoz, the machine operators are applying and working fertilizer into the soil using cultivators equipped with blade sweeps, which destroy the weeds. The tending of the crops is being carried out using a moisture-conserving technology. Towards this end, the soil cultivation mechanisms are being re-equipped so as to reduce soil moisture losses to a minimum. /by A. Katkalov/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 27 May 86 p 1/ 7026

LAST INSPECTION--Voronezh, 28 May--With each passing day, spring is making its presence known and the farmers are displaying haste as they complete their last inspection of the equipment, seed and other material resources. The personnel are very active as they strive to introduce new, leading and progressive work methods into production operations. Thus a special trip out onto the fields of the Zarechnoye Sovkhoz in Ramonskiy Rayon revealed excellent readiness on the part of the machine operators to carry out their sowing work in a rapid and high quality manner. For the very first time, ammonia liquor under pressure will be applied to the soil using three wide-cut KPS-4 cultivators. The sowing of corn using an SPM-8 sowing machine is viewed as a new innovation on the farm. Wide-cut sowing machines make it possible to shorten ths sowing periods for this valuable crop. /by A. Katkalov/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 29 May 86 p 1/ 7026

SPRING SOWING CONTINUES--Voronezh, 16--Sounds of work being carried out are emanating from the chernozem fields. Within a matter of days, moisture conservation work was carried out on an area of almost 2 million hectares of autumn plowed land. Active work is being carried out on farms in Kantemirovskiy, Olkhovatskiy, Rossoshanskiy, Talovskiy and Kalacheyevskiy rayons. In all areas, both in the southern and northern zones, the kolkhozes, sovkhozes and inter-farm enterprises are proceeding at full speed as they apply a top dressing to their winter crops and sow their annual and perennial grasses, peas and barley. The farms in Novokhoperskiy Rayon are wasting no time in carrying out their spring sowing work. The kolkhozes Krasnoye, Novaya Zhizn and the specialized farm Pobeda have already sown their early grain crops and some farms have commenced sowing their sugar beets. /by A. Katkalov/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 17 Apr 86 p 1/ 7026

FERTILIZER APPLICATION--Belgorod--The kolkhozes and sovkhozes in Belgorod Oblast have commenced applying a top dressing to their winter grain crops on a mass scale. Aircraft of agricultural aviation are applying mineral fertilizer

to sowings which lost strength during the wintering period. Mineral fertilizer applications using the ground method are being employed on an extensive scale. /Text/ /Moscow TRUD in Russian 22 Mar 86 p 1/ 7026

READINESS FOR SOWING--Belgorod--Special trips are being made out onto the fields on farms in Belgorod Oblast. This will make it possible to check upon the readiness of the equipment and personnel for sowing and to develop tactics for carrying out the sowing work. More than 1,000 non-schedule teams, formed this year at kolkhozes and sovkhozes throughout the oblast, have undertaken to carry out almost the entire volume of cultivation work for the grain and technical crops. /Text/ /Moscow TRUD in Russian 30 Mar 86 p 1/ 7026

SELECTIVE HARROWING--Belgorod, 7 Apr--A thaw period which has settled in over the past several days has accelerated the thawing of the snow and the drying out of the soil. The selective harrowing of autumn plowed land and perennial grasses commenced 10 days earlier than usual in Belgorodskiy, Shebekinskiy, Rakityanskiy, Volokonovskiy and a number of other rayons. /Text/ /Moscow SELSKAYA ZHIZN in Russian 8 Apr 86 p 1/ 7026

HIGH FINAL RESULT--Belgorod, 22 Apr--The farmers in Belgorod Oblast required only six working days for sowing their early grain crops on an area in excess of 600,000 hectares. Success in carrying out the sowing work was ensured by the extensive use of the collective contract. Interested in achieving high final results, the field workers worked out in advance all of the details concerned with the organization of their sowing work and they composed condensed schedules for use of the units. All of the spring crops were sown using good seed. /Text/ /Moscow SELSKAYA ZHIZN in Russian 23 Apr 86 p 3/ 7026

COLD WEATHER SLOWS BELORUSSIAN SOWING--The sharp cooling off in the second ten-day period of April, which throughout the entire territory of the republic, and the snowfall in the northern and northwestern rayons, slowed down the entire complex of spring field work. The sowing of spring grain and leguminous crops and flax, top-dressing and in a number of northern, central, northwesterns and northeastern rayons, applying organic and mineral fertilizers and preparing the soil, lagged behind the deadlines planned by the charts. In some rayons of the republic work on top-dressing the perennial grasses, hayfields and pastures is going slowly and crop-dusting and ground equipment is not being used efficiently enough for these purposes. /Text/ /Minsk SELSKAYA GAZETA in Russian 20 Apr 86 p 1/ 12151

CROP SOWING STAGE IN BELORUSSIA--The sowing of grain and leguminous crops on farms in Brest and Gomel oblasts is being completed. Most of the kolkhozes and sovkhozes in the republic have set about mass sowing of flax, corn, root crops and other food crops. /Text/ /Minsk SELSKAYA GAZETA in Russian 27 Apr 86 p 1/ 12151

SOWING OPERATIONS COMMENCE--Kiev--The machine operators in the southern oblasts of the Ukraine have moved their equipment out onto the fields. Yesterday, immediately after harrowing and cultivating the autumn plowed fields, they commenced sowing their barley, oats and grasses. The equipment at the kolkhozes and sovkhozes was thoroughly prepared. In all, more than 13,000 all-round mechanized detachments will participate in the sowing work. /Text/ /Moscow TRUD in Russian 29 Mar 86 p 1/ 7026

AGROCHEMICAL SERVICES--Przhevalsk--Detachments of agrochemists have turned the last field prepared for spring over to farmers in Tyupskiy Rayon in Kirghizia. They have not only carefully leveled all land and applied optimum doses of mineral fertilizers, but have also helped kolkhozes and sovkhozes to cart out about 300,000 tons of organic fertilizers to the arable wedge. Such an efficient form of servicing field cropping has now been introduced in all rayons of Issyk-Kul Oblast. Owing to this, preparations for the spring harvesting campaign are proceeding much more rapidly than last year. [Text] [Moscow TRUD in Russian 22 Dec 85 p 1] 11439

LAND LEVELING--The warm March made it possible to begin spring-field work in the south of Kirghizia a little earlier than last year. Land leveling and the necessary reclamation work were carried out in a short time. Then sowing units also went out to fields. Workers in Suzakskiy Rayon in Osh Oblast undertook to obtain, on the average, 35 quintals of cereal crops, 80 quintals of grain, and 450 quintals of green corn mass per hectare. [Text] [Moscow SELSKAYA ZHIZN in Russian 30 Mar 86 p 1] 11439

WINTER CROP TOPDRESSING--Frunze--Topdressing, which Kirghizia's field croppers completed at the optimum time, ensured an intensive development of winter crops. [Text] [Moscow TRUD in Russian 18 Mar 86 p 1] 11439

EARLY SOIL RIPENING--Przhevalsk--The sowing of spring crops in the Issyk-Kul area began earlier than usually. March thaws accelerated soil ripening. [Text] [Moscow TRUD in Russian 18 Mar 86 p 1] 11439

REPAIR OF AGRICULTURAL EQUIPMENT--Winter crops for grain for the 1986 harvest were sown on an area of 225,500 hectares and fall plowing was carried out on 420,800 hectares. Seed stocks on kolkhozes and sovkhozes were completely filled up for spring sowing and most seeds were brought up to sowing standards. Repair enterprises are preparing agricultural equipment for spring sowing. [Text] [Frunze SOVETSKAYA KIRGIZIYA in Russian 31 Jan 86 p 2] 11439

SNOW MELTING--Frunze--Intensive snow melting has not taken Kirghizia's field crop growers by surprise. Collecting flood water into channels and reservoirs, they direct it to arable land. Yesterday irrigators in the republic's south and in the Chu Valley began the irrigation of lucerne fields, orchards, and sown pastures. Farmers intend to use this effective

agricultural method, which makes it possible to eliminate the presently created moisture deficit in soil, on more than 300,000 hectares. Early spring irrigation will make it possible to reduce the consumption of accumulated moisture during summer time and to greatly increase the yield of irrigated arable land. [Text] [Moscow TRUD in Russian 13 Mar 86 p 1] 11439

SOWING OF GRAIN CROPS--Naryn--Grain growers on kolkhozes and sovkhozes in Naryn Oblast have begun the sowing of grain crops. They will have to sow 13,000 hectares of arable land located in high-mountain regions in only a few days. The performance of work in a short time is important for an acceleration of the vegetative development of plants under the conditions of the brief and cool summer. [Text] [Moscow TRUD in Russian 13 Apr 86 p 1] 11439

MUSHROOMS IN WINTER--Taldy-Kurgan Oblast (TASS)--On a winter day B. Myagenkaya, a resident of the small piedmont town of Sarkanda, looked into her small garden and did not believe her eyes: Light-brown mushrooms appeared on bird cherry stumps. The family again proved to be quite suitable for the frying pan. Probably, the sharp drops in temperature and sudden warm spells characteristic of this Kazakhstan winter "deceived" the fungus family and it appeared at an inopportune time. [By N. Tashev] [Text] [Moscow TRUD in Russian 23 Feb 86 p 4] 11439

HIGH SOWING RATES--Kzyl-Orda, 22 [Mar] (By telephone)--Machine operators on the Avangard Sovkhoz completed the sowing of wheat in 48 hours. Farmers on the Kolkhoz imeni I. Zhakhayev, on the Gigant Sovkhoz, on the Tonkurus Kolkhoz, and on other farms in Chiiliyskiy Rayon--one of the southern in the oblast--carried out the sowing campaign just as harmoniously. Early grain crops were placed on more than 6,000 hectares during an unusually short time. Choice seeds were placed in arable land treated with the necessary doses of mineral fertilizers. An efficient labor organization, a two-shift utilization of units, and prompt technical services contributed to the high sowing rates. [By K. Imanberdiyev] [Text] [Moscow SELSKAYA ZHIZN in Russian 23 Mar 86 p 1] 11439

AIR FERTILITY DETACHMENTS--Dzhambul, 11 [Mar]--Aviators of the Dzhambul Air Enterprise have topdressed the first thousands of hectares of areas sown with winter wheat from the air on the fields of the horse breeding plant in Lugovskiy Rayon. Simultaneously with air detachments, ground fertility detachments also operate in the oblast. On the virgin-land Podgornenskiy Sovkhoz mineral fertilizers are applied by means of spreaders. Almost 5,000 hectares of winter grain crops have been topdressed. Nor are the possibilities for the utilization of organic fertilizers missed here. Fedor Stepanovich Stokich, one of the first to take part in the virgin soil campaign, heads this detachment. Farmers are not wasting time and are preparing for field work every day. [By A. Iseyev] [Text] [Moscow SELSKAYA ZHIZN in Russian 12 Mar 86 p 1] 11439

SOWING OF CEREAL CROPS--Alma-Ata--Farmers in the most southern oblasts of Kazakhstan--Chimkent, Dzhambul, and Kzyl-Ordy--completed the sowing of cereal crops yesterday. Together with winter crops these crops occupied more than 1 million hectares. [Text] [Moscow TRUD in Russian 13 Apr 86 p 1] 11439

STRAIN RENOVATION--Chimkent Oblast--The preparation for the foundation of the future harvest has expanded now. Seeds have been stored in an almost full volume and large-scale work on strain renovation is being carried out. About 1,000 tons of the new "tsiklon" barley variety, which produced a record--45 to 50 quintals--harvest on irrigated plots on many farms, have been procured. The replacement of the regionalized early "unumliarp" barley variety with the new "zavet" variety, which has proved to be more promising for nonirrigated land, will be completed. Large areas have been assigned to odesskaya-66 wheat. Soil is being plowed at higher rates than last year. Almost 200,000 hectares of fall areas have already been plowed and every day the volume of prepared land is increasing by 12,000 to 13,000 hectares. Special attention is paid to crop rotations and to an increase in nonirrigated areas of perennial grass--the best predecessor of grain crops. Areas sown with lucerne will be increased significantly. For the first time 72,000 hectares have been reserved for fallow. The oblast's farmers now live with cares and concerns for the harvest of this and next year. [By A. Utyaganov, foreign correspondent of SELSKAYA ZHIZN] [Excerpt] [Moscow SELSKAYA ZHIZN in Russian 11 Aug 85 p 1] 11439

MINERAL FERTILIZER DRESSING--Alma-Ata--Kazakhstan's grain growers have backed their hopes for a high harvest with coordinated actions in the topdressing of winter crops. Farms in Chimkent Oblast were the first in the republic to complete the dressing of cereal crops with mineral fertilizers. Throughout the republic crops were topdressed on almost 1 million hectares. [Text] [Moscow TRUD in Russian 5 Apr 86 p 1] 11439

EARLY BARLEY SOWING--Chimkent--Farmers on the Kaplanbek Sovkhoz in South Kazakhstan have completed early barley sowing. Other farms in the oblast are also moving sowing units to fields. The sowing campaign in January is due to the unusually mild winter. [Text] [Moscow TRUD in Russian 26 Jan 86 p 1] 11439

INTENSIVE SOWING TECHNOLOGY--Kazakh SSR--The mass sowing of grain crops has begun in the south of the republic. It is carried out according to intensive technology everywhere. This spring grain growers will have to sow a spring wedge of 185,000 hectares. [Text] [Moscow TRUD in Russian 28 Mar 86 p 1] 11439

COLLECTIVE CONTRACT--Alma-Ata, 26 Mar (TASS)--Kazakhstan's grain growers have begun the sowing of grain crops. Farms in southern oblasts have placed wheat, barley, and peas on the first 10,000 hectares. Agroindustrial committees are activating all the potentials for an increase in the efficiency of grain production. Intensive technology, according to which crops will be cultivated on one-third of a million of hectares, is the most important of them. The links and brigades, to which these fields have been assigned, have changed over to work according to the collective contract. [Text] [Moscow SELSKAYA ZHIZN in Russian 27 Mar 86 p 1] 11439

YALTA HURRICANE--Yalta--Overturned trees and road signs, benches scattered along the sea-front and sheets of slate and iron ripped from rooftops -- such were the results of a hurricane which unexpectedly struck Yalta. Squall force winds struck during the night. Its gusts reached a force of more than 30 meters per second. Krymenergo created more than 20 emergency brigades for the purpose of cleaning up the damage caused by the hurricane. The problems of other municipal economy services increased. The overturned trees had to be removed and the piles of green trash and branches had to be gathered up and removed from the parks and squares. The insidious January surprise was inflicted upon the residents of Yalta by a southern cyclone. /by A. Zadunov/ /Text/ /Moscow TRUD in Russian 19 Jan 86 p 4/ 7026

IMPROPER USE OF EQUIPMENT--Odessa Oblast--Experience has shown that the equipment out on the spring fields is as a rule being used only 60-70 percent. Thus, over the past few years, many farms in Odessa Oblast have searched for labor organization forms which would make it possible to raise this indicator. There are those who believe that the introduction of the brigade contract will aid in solving this problem. The fields of Odessa farms stretch out from the Danube to the Yuzhnyy Bug rivers. Today this boundless steppe region resounds with the rumbling of many thousands of tractor engines. The spring work began later than usual. The weather restricted the amount of time available to the farmers and the work schedules were condensed for this reason. The extensive introduction of the flow-line cyclical method is helping to solve this problem. /by A. Soldatskiy/ /Excerpts/ /Moscow SELSKAYA ZHIZN in Russian 1 Apr 86 p 1/ 7026

EARLY SPRING SOWING--The farmers in Odessa Oblast are completing their sowing of early spring crops. Using a progressive technology, the grain growers are striving to carry out their spring work rapidly and in a high quality manner. /Text/ /Moscow SELSKAYA ZHIZN in Russian 4 Apr 86 p 1/ 7026

IRRIGATED PLANTATIONS INCLUDED--Odessa--Following modernization, the irrigated plantations on farms in the Prichernomorye region were included in the crop rotation plans. For this present season, the machine operators turned over to the farmers approximately 4,000 hectares of such tracts. Yesterday the hydraulic engineering service commenced watering them. /Text/ /Moscow TRUD in Russian 13 Apr 86 p 1/ 7026

SPRING SOWING PLANS--Zaporozhye, 29 Mar--Many of the oblast's farms required only a few hours for harrowing the autumn plowed fields in two tracks. The farmers in Akimovskiy, Tokmakskiy, Primorskiy and Kuybyshev rayons carried out this work earlier than other farmers. Immediately thereafter, tractors with cultivators and sowing units were moved out onto the fields. More than 100,000 hectares have already been sown in early spring crops. And the plans call for them to be planted on 211,000 hectares. The plan is as follows: to carry out the sowing work in just 3-4 working days. The work rates for tending the winter crop fields are increasing simultaneously. The first spring top dressing, mainly nitrogen fertilizer, has been applied to an area nearly 300,000 hectares in size. While striving to retain the moisture supplies in the soil, the grain growers are applying mineral fertilizer using the root method. /by I. Ivanchenko/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 30 Mar 86 p 1/ 7026

BIRD CENSUS--Dozens of species of waterfowl winter on the Lebyazhye Islands in the Karkinitskiy Bay of the Black Sea. They are the concern of workers attached to the Crimea State Forest Reserve and Hunting Economy. A bird census is nearing completion. Information gathered by the scientists will aid in determining the number of birds that suffered from the winter cold conditions of 1985. This year, feed has been laid away for the birds for use in the event of prolonged cold weather. It will be delivered by helicopters. An entire aviary has been made available at the Chernyshevskiy Sovkhoz for swans that are in a weakened condition. /by A. Zadunov/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 12 Feb 86 p 4/ 7026

ORCHARD WATERING OPERATIONS--Simferopol, 11 Mar--In February, warm weather prevailed in the Crimea for a period of many days. The farms took advantage of this fact and moved their equipment out onto the fields. In Kirovskiy Rayon, for example, the machine operators succeeded in sowing spring crops on a portion of their fields. Snow and cold weather interrupted the sowing work and the machine operators shifted over to applying a top dressing to the winter crops. During this period, soil watering work was carried out in the orchards and vineyards in Belogorskiy Rayon. More than 2,300 hectares of plantings have already been watered. At the Kolkhoz imeni Suvorov, almost 200 hectares of orchard have been watered at the rate of 1,200 cubic meters per hectare. This will enable the farm, during the first year of the 12th Five-Year Plan, to obtain a high fruit yield. /by A. Soldatskiy/ /Text/ /Moscow SELSKAYA ZHIZN in Russian 12 Mar 86 p 1/ 7026

CSO: 1824/312

LIVESTOCK

UDC 637.1"71"

MILK, DAIRY INDUSTRY PROGRESS REVIEWED; 1986 TASKS INDICATED

Moscow MOLOCHNAYA PROMYSHLENNOST in Russian No 1, Jan 86 pp 1-4

[Article: "Tasks of Collectives of Dairy Industry Enterprises in the First Year of the 12th Five-Year Plan"]

[Excerpts] In accordance with the decisions of the 26th CPSU Congress and the April (1985) Plenum of the CPSU Central Committee, as well as the directives given at the conference in the Central Committee on problems of acceleration of scientific and technical progress, collectives of dairy industry enterprises take measures to further increase the output of dairy products, to improve their quality, and to refine the structure of production on the basis of a rise in its technical level and intensification.

Collectives of the sector's production associations and enterprises, having widely expanded the socialist competition for a prescheduled fulfillment of the 1985 plan in honor of an appropriate welcome to the 27th Congress of the Communist Party of the Soviet Union, fulfilled the annual plan for the total volume of production and sale of products, output of most dairy products in kind, labor productivity, production cost, and profit.

More than 38,000 tons of butter, 365,000 tons of whole-milk products, 4,500 tons of fatty cheese, 26 million standard cans of milk--in all, worth almost 300 million rubles--were produced in excess of the plan.

Outstripping rates of growth of the production of dairy products in great demand among the population and new ones with improved nutritive and gustatory properties in packaged and wrapped form were attained. The output of dairy baby products increased.

Specific work on a rise in the efficiency of utilization of raw material resources, increase in the production of dairy products of higher biological and nutritive value, and decrease in various kinds of losses on the basis of the introduction of low-waste technologies was carried out in the sector.

The production of new types of liquid and pasty dairy baby products with fruit and berry fillers, of quick-soluble dry whole milk, of Stolovyy pot cheese, and so forth was mastered in 1985. Advanced technology of production of sour cream, of pot cheese and sour milk beverages with the utilization of a

bacterial concentrate, of sour cream of a 10-, 20-, and 25-percent fat content with the application of ferments accelerating the fermentation of cream and improving the consistency of finished products, of cheese with the utilization of the bacterial preparations 2u, 3u, and 4u and Bioantibut, and of a number of others was introduced.

With an increase of 1 percent in the resources of skim milk and buttermilk, as compared with 1984, their utilization for industrial processing in 1985 rose by 3 percent, comprising 49.2 percent of the total quantity. The utilization of whey for the production of products increased by almost 5 percent (50.6 percent of its total resources).

Crucial tasks have been set for the dairy industry in the first year of the 12th Five-Year Plan.

The 1986 plan was developed with due regard for the demands of the April and October (1985) plenums of the CPSU Central Committee, aims of the CPSU Central Committee concerning the acceleration of the country's social and economic development on the basis of scientific and technical progress, and decisions of the fourth session of the 11th convocation of the USSR Supreme Soviet.

The plan envisages a further increase in the output of dairy products, refinement in the economic relations of the sector's enterprises forming part of the agroindustrial complex, implementation of organizational, technical, and economic measures for production intensification, significant upgrading of the quality of products on the basis of the introduction of the achievements of science and technology into production, improvement in the utilization of the existing production potential, strengthening of the production and technical base, economical expenditure of raw material, labor, financial, fuel-power, and other material resources, strengthening of state and labor discipline, organization, and order, and solution of a number of social problems.

On the basis of the raw material resources contemplated for processing (68.1 million tons of milk) the output of butter is envisaged in the amount of 1,508,000 tons, of cheese, 832,000 tons, of whole-milk products, 29.2 million tons, of milk, 1,430 million standard cans, and of dry whole milk, 254,200 tons. An increase of 8 percent in the production of dry skim milk and whole milk substitutes and of 6.5 percent in nonfat dairy products is planned.

For the purpose of a fuller satisfaction of the population's demand for dairy products the 1986 plan envisages outstripping rates of production of canned milk, cheese, baby and dietetic products, and packaged and wrapped products. For example, the output of packaged milk should increase by 34 percent, of sour cream, by 49 percent, and of pot cheese, by 43 percent as compared with 1985.

Measures for a fuller utilization of products obtained during milk processing are envisaged. Plans are made to process up to 20.8 million tons of skim milk and buttermilk for food purposes--1.2 million tons more than in 1985--and 6.65 million tons of milk whey is to be allocated for industrial processing--4.7 percent more than in 1985, including about 2 million tons for utilization

in baking and confectionery sectors. The assortment of products from these types of raw materials will be quite vast, that is, dry whey, concentrates, beverages, whey protein, milk sugar, whole-milk substitutes, and others, which will make it possible, with due regard for regional characteristics and production possibilities, to meet basically the demand of the population and of the national economy for products produced from milk whey.

To improve the fodder balance and to reduce the utilization of whole milk for feeding young animals, an increase of 8 percent in the production of dry skim milk and whole-milk substitutes is envisaged.

On the basis of the further introduction of advanced milk processing technology, improvement in technological discipline and in sanitary-hygienic conditions, and increase in exacting requirements in the matter of output of guaranteed-quality products in 1986 the sector's enterprises should increase the production of high-grade butter up to 99 percent and of rennet cheese (high-grade) up to 74 percent of their total output.

Implementing the decisions of the May (1982) and subsequent plenums of the CPSU Central Committee on the development and strengthening of direct relations among the partners of the agroindustrial complex, dairy industry enterprises annually expand the direct acceptance of milk on farms and its centralized delivery by specialized transport.

Throughout the country in 1985 a total of 26 million tons of milk were accepted directly on farms. The proportion of centralized delivery comprised 42 percent of the total volume of its arrival for processing.

The proportion of the milk accepted directly on farms is significant in the Estonian SSR--73 percent--in the Tajik SSR--67 percent--in the Kirghiz SSR--56 percent--and in the Lithuanian SSR--44 percent, as well as in a number of oblasts in the RSFSR, the Ukrainian SSR, and the Belorussian SSR, where the transition to this form of procurements is close to conclusion.

Utilizing the advantages of the new form of management of the agroindustrial complex, plans are made to implement further measures to expand the direct acceptance of milk on farms and to increase its delivery by specialized transport to 30 million tons in 1986. Agroindustrial committees and associations must take decisive measures to accelerate the preparation of farms and enterprises for the transition to the delivery-acceptance of milk at places of its production, as well as for a more efficient utilization of specialized transport.

Taking into consideration that the plan envisages additionally including about 700,000 tons of milk in industrial processing, associations and enterprises should pay special attention to an improvement in organizational work on its procurements and increase in marketability. To obtain an above-plan quantity of milk in the indicated volumes, it is sufficient to attain an increase of only 1 percent in its marketability on the country's kolkhozes and sovkhozes. Under the conditions of a continuous increase in the production and delivery of whole milk substitutes to agriculture for feeding young animals this task is fully realistic.

It is also necessary to more actively utilize the possibilities of milk purchases on citizens' private plots. In individual republics and oblasts there are considerable potentials for this. For example, whereas during 8 months in 1985 in the Belorussian SSR 857 kg of milk per cow were purchased from citizens, in the Ukrainian SSR, one-half of this, that is, 359 kg, in the Kazakh SSR, 230 kg, and in the Kirghiz SSR, only 90 kg. A total of 47 kg of milk are purchased in the Uzbek SSR, which is almost one-half of the quantity purchased in the Tajik SSR and in the Turkmen SSR. In January-August 1985 a total of 850 kg of milk were purchased in Orel Oblast in the RSFSR and 600 kg, in neighboring Kursk Oblast. Only 300 to 350 kg of milk were purchased in many central oblasts--Ivanovo, Yaroslavl, Vladimir, Kostroma, Moscow, and others.

The data cited attest to the existence of considerable potentials, whose utilization requires the creation of the necessary conditions promoting an increase in the quantity of surplus milk sold by the population.

It is necessary to more widely utilize milk resources for industrial processing supplied by the customer.

In the dairy industry in 1986 plans are made to increase labor productivity by 3.1 percent and, as a result, to ensure the entire increase in the production volume. At the same time, in order to staff newly commissioned enterprises and projects, the size of the industrial and production personnel at existing enterprises should be lowered by approximately 2 percent.

For the purpose of improving the utilization of labor resources and fulfilling the plan for labor productivity, at every association and enterprise it is necessary to implement a set of measures for a further rise in the technical level of production, improvement in labor organization, and reduction in various work time losses.

More than 700 units of highly productive, new equipment, including ultrafiltration installations for processing skim milk and whey, highly productive, new lines for bottling milk and dairy products, automatic manipulators, and other equipment, are to be installed at dairy industry enterprises in 1986. Plans are also made to significantly expand the volume of introduction of measures already mastered in the sector, which are of great importance for a reduction in manual labor and its mechanization. Through a rise in the technical level of production 65 percent of the growth of labor productivity in relation to its total rise is to be attained. The proportion of workers engaged in manual labor should be lowered by no less than 1.5 to 2 points.

An improvement in the organization of production and labor and a reduction in various kinds of work time losses are other important directions in the rise in labor productivity. For these purposes provision is made to implement measures for streamlining work places on the basis of their certification, further developing the brigade form of labor organization and stimulation, introducing brigade cost accounting, and increasing the number of workers in brigades paid according to a single order for the final result.

Plans are made to continue work on improving labor standardization on the basis of the introduction of intersectorial and sectorial norms and standards for workers and engineering and technical personnel and the organization and servicing of work places, on introducing advanced techniques and methods of labor, on improving working conditions and the utilization of the work time, and on strengthening production discipline.

The introduction as of 1 January 1986 of new methods of stimulation of highly productive labor through the establishment of wage rate increases for skilled workers engaged in especially responsible jobs and for high occupational skills and of salary increases for engineering and technical personnel for high skills will have a positive effect on an improvement in the utilization of labor resources and the attainment of the envisaged rates of labor productivity growth.

With due regard for the rates of growth of the output of milk products and their structure, as well as the outlined measures for a rise in the technical level of production and a further improvement in its organization, a reduction of 0.64 percent in expenditures per unit of commodity output, as compared with the 1985 plan, is envisaged.

The 1986 plan envisages implementing measures for a more efficient utilization of raw material, fuel-power, and other resources and for the introduction of new equipment and advanced technology. For example, the processing of skim milk and milk whey by the method of ultrafiltration, the introduction of the bottling of milk and dairy products in improved containers, and the further expansion of the production of dairy products balanced in terms of protein and fat, as well as with fruit-berry and vegetable enriching additives and vitamins, will find a more extensive application.

Provision is made for a sharp reduction in the output of unprofitable dairy products, losses, and unproductive expenditures and outlays on management. As a result of the implementation of the set of organizational and technical measures aimed at the introduction of energy saving technologies and equipment, transfer of existing boiler rooms to gaseous fuel, reconstruction of boiler rooms, maintenance of refrigerating chambers and cold wires in technical working order, utilization of compensating devices for maintaining the power coefficient, and other measures, in 1986 as compared with 1985, norms of expenditure of energy resources on output are to be reduced as follows: of boiler-furnace fuel, by 0.4 percent, of thermal energy, by 1.8 percent, and of electric power, by 0.8 percent.

For the purpose of a more efficient utilization and saving of water resources the introduction of the system of circulating and repeated-successive water supply is planned.

The production and technical base of industry will be further developed during the current year. We will have to utilize more than 1 billion rubles of capital investments, including about 50 percent on the reconstruction and retooling of existing enterprises, and to put into operation production capacities for the output of 1,874 tons of whole-milk products, 29.2 tons of

cheese, and 121.3 tons of dry skim milk, whole-milk substitutes, and dry whey per shift. Allocations for the construction of housing, as well as projects for social and cultural purposes, are also being increased.

The work of the agroindustrial complex, including of the dairy sector, takes place under the conditions of the new system of management. The establishment of a single central body--the USSR State Agroindustrial Association--as well as of new local management bodies undoubtedly will serve the cause of acceleration of the development of industry and realization of the country's Food Program.

Entering the first year of the 12th Five-Year Plan, dairy industry workers, having weighed their opportunities, adopted socialist obligations to increase the results of work, to attain the overfulfillment of established assignments, and to complete the 2-month plan by the day of opening of the 27th CPSU Congress.

11439
CSO: 1824/296

LIVESTOCK

PROBLEMS INDICATED IN ESTONIAN LIVESTOCK SECTOR

First Quarter Lag

Tallinn SOVETSKAYA ESTONIYA in Russian 24 Apr 86 p 1

[Unattributed article under rubric "Checking the Fulfillment of Obligations: Agricultural Review": "To Eliminate Lagging"]

[Text] The thoughts of working people in the countryside are concentrated on the coming spring tasks in the fields. From year to year their quality improves, but it is still far from the ideal. Carrying out the tasks in the fields in the optimum time period and with high quality results--this is the urgent task of farmers today.

On 1 April, 96 percent of all tractors were in working order, and 97 percent of plows, tractor seeders, and cultivators. Farms have been provided with good seed material. The areas planted with rape and other crops rich in protein are being expanded. Farms have also been well-provided with seed potatoes. Now a word about machine operators. It is true that there are not enough of them in all places, and so farms are awaiting help from their chiefs.

The results of the first quarter showed that last year's level of production and sales of livestock products to the state was not maintained, nor were the obligations undertaken fulfilled.

The main reasons for this are the shortage of feeds, their poor quality, and shortcomings in the organization of work. It was for this reason that milk production decreased by 1 percent, and the sale of livestock and poultry by 2 percent. And although the quarterly plan for livestock procurement in the republic was fulfilled by 100.8 percent, this was 4 percent lower than the 1985 level.

The main volume of targets for selling livestock and poultry thus falls to the second half of the year. Overall fulfillment of the plan, too, is cause for concern, the more so as 83 of the republic's 300 farms failed to fulfill their quarterly targets. In Paydeskiy Rayon, 12 out of 20 farms are in debt, and in Vilyandiskiy Rayon, all 26 of them. Paydeskiy Rayon fulfilled its quarterly target by only 92 percent, which is 14 percent lower than last year. Workers in Vyru lagged behind the level of last year by almost 20 percent. Kharyuskiy,

Khiyumaaskiy, and Kingiseppskiy rayons managed to organize the production of meat better than others. Here the indicators increased by 9.1 and 5 percent, respectively.

Why did the quarterly plan turn out not to be within the powers of many rayons? One of the reasons is the fact that in the last months of last year, in the interests of fulfilling the yearly target, more head of livestock were removed from the herd than was planned. But this is not the main reason. Many farms were unable to feed their livestock up to the necessary standards. The daily weight gains of both cattle and pigs in feeding stables were lower. For example, in March the daily weight gains of pigs on farms in Paydeskiy Rayon totaled only 406 grams (the average throughout the republic was 489 grams), as opposed to 472 grams last year. The picture was similar on the farms of Tartuskiy, Valgaskiy, Vilyandiskiy, and other rayons.

A reserve for increasing meat production is good fattening of livestock. In order to accomplish this it is necessary to use feeds better, and capably organize the work on farms. The average cattle weight achieved in the republic was 456 kilograms (460 kilograms last year), for pigs--105 kilograms (112 last year). The weight of the cattle in March was only 448 kilograms, and in Kokhtla-Yarveskiy, Pyarnuskiy, Tartuskiy, and Valgaskiy rayons--less than 440 kilograms. But in Kingiseppskiy Rayon it was 470 kilograms.

The average weight achieved for pigs in March was 103 kilograms, and in Raplaskiy and Pyarnuskiy rayons--less than 100 kilograms.

In terms of the situation on 1 April, there were 1 percent fewer cattle on republic farms and 0.6 percent fewer pigs than in 1985. The numbers of eggs and poultry also decreased. Moreover, the yearly plans are now higher than last year's. This means that we must apply our maximum efforts to correct the situation.

Taking into account the fact that the increased meat production is to come primarily from increased production of pork, it is necessary to improve the selection of young sows and their fertilization in the coming period. Throughout the republic, sows are being fertilized at a rate 1 percent higher than last year, and 2 percent more young pigs were obtained in the first quarter than there were a year ago. Unfortunately, against the overall background the farms of Paydeskiy and Valgaskiy rayons are lagging behind.

In the summer it is especially important to think out the organization of fattening livestock on grazing lands. It is now already time for each farm to put together its feeding groups for the summer, find conscientious people for these tasks, and adopt the brigade family contract more widely in practice. It is gratifying to note that in the first quarter 7,000 more young pigs than last year were turned over to the population for fattening (an increase of 34 percent). The sale of young pigs to the population must be expanded in Khiyumaaskiy, Pyarnuskiy, and Vyruskiy rayons.

The quarterly target for milk sales to the state was fulfilled by only 98 percent. Only Khaapsaluskiy, Kharyuskiy, Khiyumaaskiy, and Raplaskiy rayons managed to meet the plan. In Tartuskiy Rayon, milk sales to the state were reduced by a full 8 percent. These indicators also decreased in many farms of

Khokhtla-Yarveskiy, Pyarnuskiy, Valgaskiy, and Vilyandiskiy rayons. The absence of the proper discipline and responsibility here explains a great deal.

On 1 April, the average milk yield per cow throughout the republic was 884 kilograms--9 kilograms lower than in the first quarter of 1985. Milk yields decreased in all rayons except Khaapsaluskiy, Kharyuskiy, Khiyumaaskiy, and Raplaskiy. In milk production, Kharyuskiy Rayon is still leading the rest, with an average indicator of 989 kilograms, 20 more than last year's average.

Because of the shortage of feeds, 171 farms of the republic were not able to prevent reduced milk yields. For example, on the model sovkhoz, Tartu, milk yields dropped by 153 kilograms, on Leninlik Tee Kolkhoz in Paydeskiy Rayon by 137 kilograms, and on Nymme Sovkhoz in Pyarnuskiy Rayon by 161 kilograms, compared to last year. At the same time, thanks to good work organization and capable use of feeds, milk yields for the 3 months were raised by more than 100 kilograms on Vyandra, Kayu, and Emmaste kolkhozes, and Tamsalu, Kokhila, and Misso sovkhozes. This means that there are some which can set an example for the rest.

Table 1--Purchases of Meat and Average Daily Weight Gains of Livestock Being Fattened (January-March 1986)

		(1)		(4)		(7)	
	Rayons	(2)	(3)	(5)	(6)	(5)	(6)
1.	Khaapsaluskiy	110	95	473	109	711	503
2.	Kharyuskiy	109	109	458	102	670	482
3.	Khiyumaaskiy	108	113	463	108	719	523
4.	Rakvereskiy	107	95	487	103	632	464
5.	Raplaskiy	104	90	450	102	739	461
6.	Khokhtla-Yarveskiy	104	93	447	112	494	444
7.	Kingiseppskiy	103	105	472	101	557	461
8.	Pyarnuskiy	100	93	444	97	488	502
9.	Vilyandiskiy	99	85	443	104	593	498
10.	Tartuskiy	98	88	441	106	477	438
11.	Pylvaskiy	96	96	445	109	636	533
12.	Yygevaskiy	96	92	452	105	586	497
13.	Vyruskiy	94	80	451	116	601	462
14.	Paydeskiy	92	86	468	105	608	459
15.	Valgaskiy	89	88	439	106	517	437

Key:

1. Livestock and poultry purchased in all categories of farms
2. Percent in terms of the first quarter plan
3. Percent of the corresponding period of 1985
4. Average weight of livestock purchased, in kilograms
5. Cattle
6. Pigs
7. Average daily weight gain of livestock during fattening on kolkhozes and sovkhozes, in grams

The spring transitional period is approaching. The hay laid up for it should boost milk yields in the milk herd. In addition, we must not forget the potato remnants. Every effort should be made to see to it that last year's level of milk yields is reached in May. Our last chance to consider the summer fattening of livestock has come. In recent years not everything has gone well with us in this area. And now we must obtain a substantial improvement in it during the summer. In order to accomplish this, areas planted with feed crops must be expanded in all places.

Any endeavor depends first and foremost on the people, the conditions under which they work and live. In increasing the demands made on people's labor, we must not forget to pay attention to the needs and concerns of the rural population. Such are the directives of the 27th CPSU Congress.

Well-organized socialist competition on the farms and concern for the working people will help to repair the shortcomings and worthily fulfill the tasks of the first year of the 12th Five-Year Plan.

Table 2--Milk Purchases and Productivity of Cows
(January-March 1986)

	Rayons	(1) (2)	(3)	(4)	(5)
1.	Khiyumaaskiy	120	119	790	+86
2.	Raplaskiy	105	105	911	+56
3.	Kharyuskiy	101	100.9	989	+20
4.	Khaapsaluskiy	100.5	99.5	778	+ 6
5.	Rakvereskiy	99	99	963	-10
6.	Pylvaskiy	98	98	837	- 9
7.	Kingiseppskiy	98	99.7	801	-18
8.	Yygevaskiy	98	98	857	-18
9.	Vyruskiy	98	97	831	-21
10.	Paydeskiy	98	98	958	- 7
11.	Khokhtla-Yarveskiy	97	96	801	-32
12.	Pyarnuskiy	96	96	916	-25
13.	Vilyandiskiy	96	95	907	-20
14.	Valgaskiy	94	94	757	-42
15.	Tartuskiy	94	92	816	-43

Key:

1. Milk purchased in all categories of farms
2. Percent of the first-quarter plan
3. Percent of the corresponding period of 1985
4. Average milk yield of a single cow on kolkhozes and sovkhozes, in kilograms
5. +/- kilograms compared to the corresponding period of 1985

Hereford Cattle Breeding

Tallinn SOVETSKAYA ESTONIYA in Russian 25 Apr 86 p 2

[Article by A. Suurmaa, head of the selection center of Estonian Scientific-Research Institute of Animal Husbandry and Veterinary Medicine imeni A. Melder, and candidate of agricultural sciences: "Prolonged Deliberations"]

> [Text] Our republic is being too slow in adopting scientists' proposal of breeding cattle of the Hereford breed, which yield the most inexpensive beef.

Facts Are a Stubborn Thing

On my work desk there are reports which have come in from various rayons of the republic. They are the expenses and profits of farms which have undertaken a new task--raising Hereford cows. From the data of the reports it is clear: the cost of 100 kilograms of additional weight of these animals is 10 rubles lower, on average throughout the republic, than the traditional red and black-spotted breeds. The Western rayons--Khaapsaluskiy and Kingiseppskiy--stand out among the others. For example, 47,500 rubles came into the till of Syrve Sovkhoz last year from sales of Hereford steers and cows. This total is interpreted as follows. Seventy-three animals were turned over, of which 50 were in the highest category, and the average weight was 367 kilograms. A still greater profit was achieved in Laymyala Island Kolkhoz--about 70,000 rubles. The most inexpensive meat of all was obtained on Tuudi Kolkhoz in Khaapsaluskiy Rayon--here 100 kilograms of beef cost a total of only 80-100 rubles.

Hereford...some 10 years ago only specialists had heard of this breed in our republic. They then proposed that we study raising cattle of the meat-producing breeds, particularly the Hereford breed. We had no practical experience in this. Estonia has traditionally been considered a republic of milk cattle breeding. Scientists of the Scientific-Research Institute of Animal Husbandry and Veterinary Medicine imeni A. Melder were entrusted with the task of finding a meat-producing breed suitable for our conditions. Thus, in 1978 there appeared on our meadows these undersized cows with broad backs and large branching horns, unfamiliar to the local inhabitants. Now they are on 17 farms. At the beginning of this year there were more than 1300 head of them. It is curious to note that in the last 3 years the number of these animals which come into meat combines has increased by a factor of 4.

At first glance it might appear that everything is going as it should. The herd is increasing, the profits are increasing too....

But nevertheless this breed is being settled in with us too slowly. What are the roots of the skepticism, the lack of trust in the recommendations of scientists of the Scientific-Research Institute of Animal Husbandry and Veterinary Medicine?

Taking Stock of Mistakes

This truth is an old one, and in this case it cannot be escaped. Even the farms which are now receiving large profits from the Hereford have lived through hard times.

Among the first who were not afraid to undertake the new endeavor was Syrve Sovkhoz in Kingiseppskiy Rayon. It turned out that here there are all the conditions necessary to obtain inexpensive meat: an abundance of infertile meadows and pasturelands on the coast which the enterprise had made practically no use of because of their distance from the farms and the shortage of field hands. In a word, everything which would make it advantageous to keep cattle of this breed. These animals are less capricious, they eat less fodder and less succulent fodder, and they can be left on the pasture significantly longer than our cows. Keeping them is a less labor-intensive proposition. But all of this by no means guarantees that the Hereford will increase by itself, that you need only take the meat. It also requires competent zoological care, correct tending.

Such was not the experience in Syrve. There were even initial failures here. There were instances of epizootic disease among the cattle, which had previously not been encountered on the farms of the republic. The veterinary service was unprepared. The cost of feeds was unexpectedly high--anything up to 900 feed units per 100 kilograms of additional weight. Some animals had weak and sickly offspring. Great efforts were required from farm specialists to take care of seasonal fluctuation of calving in the winter-spring period. It is during this time that the calves grow up most viable, comparatively few of them become sick, and caring for them is substantially simpler and less expensive.

We must give the leaders of the sovkhoz their due, especially the chief zoologist, Honored Zoologist of Estonia I. Niyt--she displayed a great deal of persistence and patience in the new effort, teaching the livestock breeders and studying herself. And the result is at hand--the Hereford became a source of much profit.

Unfortunately, leaders and specialists of Vyru Sovkhoz in Vyruskiy Rayon, Kolkhoz imeni V. I. Lenin in Khaapsaluskiy Rayon, and a number of other farms did not have enough of the same persistence. In these places interest in the breed fizzled out rapidly when they first ran into difficulties. And this is a place where there are many natural pastures suitable for grazing. In order to validate their positions somehow, "objective" arguments were found. Thus, Vyru based their rejection on the fact that the daily weight gains of the cattle turn out to be very low--only about 200 grams. But they forgot that no matter how advantageous the cows' qualities were, they could not get along without care.

Adding to the Table

Other factors also speak in defense of raising the Hereford. Above all there is the possibility of using old pens to raise them and the relative inexpensiveness of constructing new ones. Analysis has shown that this was why the

prime cost of meat turned out to be so low on Tuudi Kolkhoz in Khaapsaluskiy Rayon, where they used empty livestock enclosures. These results were reproduced by certain leaders of enterprises which undertook to create their own subsidiary farms, for example Khaapsaluskiy Interkolkhoz Construction Office. In 1982 the builders put up pens in 200 places, and organized the grazing of the animals on lands unsuitable for agricultural production. And last year they had already cured and preserved the meat, and were serving it in the workers' dining room.

Experience of raising meat cattle for their own needs has also been accumulated on the Fishing Kolkhoz imeni Kirov. For this purpose, they constructed an efficient, inexpensive pen. Kolkhoz engineers put together the design of this pen themselves, consulting with our Scientific-Research Institute of Animal Husbandry and Veterinary Medicine. The kolkhoz members had already assessed the taste advantages of the meat of the Hereford animals. Incidentally, the tasters also gave subsequent meat dishes and broths prepared from the same meat high marks.

And so experience confirms the advantage of this direction of raising meat animals on enterprises' subsidiary farms as well. After all, they are as a rule given lands which are poorly suitable for milk cattle. I would like to point out that 20 percent of the animals now kept on such subsidiary farms are Herefords. In order to carry out the Food Program, it is necessary to bring into action all the reserves of our livestock-raising sector. One of them is full use of natural fodder lands, as pointed out in recent party documents. This task is extremely urgent for our republic.

In order to stimulate the breeding of meat varieties of cattle, in December 1985 the Presidium of the State Agroindustrial Association established a 50-percent additional payment for meat from cows of the Hereford breed.

It may be that this measure will prompt farms to reject their prejudiced attitude toward the Hereford.

12255
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REGIONAL DEVELOPMENT

KAZAKH CP CC CONFERENCE CONSIDERS APK PROGRESS, TASKS

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 27 Mar 86 pp 1-2

[KazTAG article: "Efficient Tempo and Acceleration for the Food Conveyor: Conference of the Kazakh CPCC"]

[Excerpts]The Kazakh CP Central Committee held a conference in which the following participated: party obkom secretaries; first deputy chairmen of oblast ispolkoms; chairmen of oblast agro-industrial committees and their deputies; managers from a number of the republic's ministries and departments and from trade union and komsomol organs; scientists of the Eastern Division of VASKhNIL and branch NII [Scientific and Research Institutes]; directors of oblast trade and public dining management; chairmen of oblast Potrebsoyuzes; directors and secretaries of party organizations; specialists from associations and enterprises of the food, meat and dairy, fish, hulling-milling industries, and forest management; and, employees of mass information media.

D. A. Kunayev, member of the CPSU Central Committee Politburo and first secretary of the Kazakh CP Central Committee opened the conference with an introductory address.

The following participated in the work of the conference: members of the Kazakh CP Central Committee Buro--Ye. F. Bashmakov, V. A. Grebenyuk, Z. K. Kamalidenov, M. S. Mendybayev and S. M. Mukashev; Deputy Chairman of the Kazakh SSR Council of Ministers T. B. Kuppayev; and, responsible officials of the Kazakh CP Central Committee and the Kazakh SSR Council of Ministers.

The problems of the party and the soviet and economic organs were examined on accelerating the food sector development of the agro-industrial complex, increasing the output of food products, and improving their supply to the population in light of the decisions of the CPSU 27th Congress and the Kazakh CP 16th Congress.

A. P. Rybnikov, secretary of the Kazakh CP Central Committee, presented a report at the conference.

The following participated in the discussion of the report: Second Secretary of the Kokchetav Obkom of the Kazakh CP V. N. Zub; First Deputy Chairman of the Aktyubinsk Oblast Ispolkom and Chairman of the Oblast Agro-Industrial Committee A. I. Shukhovtsev; Director of the Alma-Ata Meat Industry Production Association A. I. Neyeshkhlebov; Director of the Taldy-Kurgan Sovkhoz Plant A.S. Uksukbayev; Chairman of the Kazakh SSR People's Control Committee B. V. Isayev; General Director of the Karaganda Dairy Industry Association I. A. Iost; Secretary of the Pavlodar Obkom of the Kazakh CP O. A. Shikhaleyev; Director of Dam Management of Alma-Ata Oblast A. Oynarov; First Deputy Chairman of the Tselinograd Oblast Ispolkom and Chairman of the Oblast Agro-Industrial Committee A. G. Braun; Chairman of the Kustanay Oblast Potrebsoyuz A. P. Plyusnin; an employee of the Arkalyk Meat Combine N. G. Basova; Director of the Kaplanbek Fruit Sovkhoz of Chimkent Oblast I. A. Tyshchenko; and, First Deputy Chairman of the Kazakh SSR Council of Ministers and Chairman of the republic's Gosagroprom E. Kh. Gukasov.

The main speaker and the others who spoke stressed the fact that the agro-industrial complex workers are faced with exceptionally responsible tasks in light of the party's decisions. Comrade M. S. Gorbachev indicated at the 27th Party Congress that "A decisive turning point is essential in the agrarian sector so that food supplies can be appreciably improved as early as the 12th five-year plan." This thought also runs through all the materials of the Kazakh CP 16th Congress. The party is mainly asking for: marked improvement in the efficiency of agriculture; steady growth of food product production; and, efficient use processing and storing of agricultural raw materials. These many-sided problems were discussed last year in the Central Committee of our party and at the conferences of the party-management activ in Tselinograd.

First of all, it has to be thoroughly understood that the key problem for Kazakhstan now, as before, is still the struggle for an adequate bread supply. Also, a significant growth in the production of potatoes, vegetables, particularly meat, dairy and other agricultural and livestock products has to be ensured. Attention should be focused on further increase of food sector capacities in the industry, storage and processing of fruit and vegetable production, assimilation of resource saving technologies, and improvement of food product trade.

Measures have to be worked out that can maximally satisfy the food product needs of the population in each oblast through their own production; dependence should be vigorously condemned as well as any attempt to shift this work to soviet or republic bodies. To improve the interest of local bodies in increased production of food products and to improve their supply to the population, the CPSU Central Committee and the USSR Council of Ministers have decreed that meat resources, dairy and other production may be left for sale in the republics and oblasts after deliveries, as required by plans, have been made to the central funds. The sovhozes and

kolkhozes may sell all above-plan production, as well as potatoes, fruits and vegetables, and a significant part of the planned production through cooperative trade and at kolkhoz markets.

The last five-year plan was not an easy one in terms of weather. But, because of the selfless labor of the Kazakh people over 63 million tons of grain were placed in the granaries of our country. Eighty three percent of the total volume of procured wheat was of the durum, strong, and valuable varieties. Purchases of vegetables and potatoes, meat, milk and eggs have increased.

The processing sectors of the agro-industrial complex have been further developed. Many new plants and large shops have been built and put into operation in recent years. The assortment of basic food products has been expanded and their output has been increased. In the republic, a significant part of the retail goods turnover is now based on the production of the agrarian sector and goods, produced from agricultural raw materials.

However, the attained level of agricultural production as well as of other sectors of the agro-industrial complex does not fully correspond to the decisions of the May (1982) and April (1985) CPSU Central Committee Plenums. Most of the sovkhozes and kolkhozes have not been able to switch to intensification of production, are using their production potential rather inefficiently, and are slow in assimilating the achievements of science and advanced experience.

In accordance with the decrees of the CPSU 27th Congress and the Kazakh CP 16th Congress, the republic is obligated by 1990 to bring grain production up to 30-31 million tons, meat production up to 1.4-1.5 million tons (dressed weight), milk up to 5.4-5.5 million tons, and eggs up to 4.2-4.3 billion eggs. The basic way of doing this is to accelerate the switch of agriculture to the intensive development track, to significantly improve the yield of capital investments and the quality of labor, and to strengthen the ties between science and production. This requires new approaches and improvement in the activity of the republic's Gosagroprom, which now as a single administrative body carries complete responsibility for increasing the output of agricultural production and for providing the population with food products.

It is very important that the following be assimilated everywhere: the scientifically based regional soil protection systems of agriculture; the structural improvement of land areas used for crops; the introduction of intensive technologies, cost accounting, and brigade contracts; and, the use of economic levers.

Grain production has to be given much stability and its dependence on soil-climatic conditions has to be reduced to a minimum. Our main resource is the increase of yield and the elimination of irregularities. We must sharply increase wheat production, particularly

the durum and strong varieties, through assimilation of intensive technologies.

The situation with the production of crops used for groats has to be corrected immediately. Here, we have had considerable failure. Special attention should be focused on irrigated lands and the yield of corn for seeds, and rice and other crops should be increased. During the past five-year plan the farms of Taldy-Kurgan, Alma-Ata and Dzhambul Oblasts had a large shortfall in the amount of sugar beets delivered to the state.

One of the most acute problems for many oblasts is supplying city populations with potatoes and vegetables. Much has been done in this direction. However, this problem still has not been solved everywhere. The production of vegetables and potatoes is slowly growing in the Guryev, Turgay, Aktyubinsk and Alma-Ata Oblasts, but in Uralsk Oblast this production has even dropped compared to the 10th five-year plan.

In accordance with present-day requirements, unremitting attention should be given to the preservation of output already produced. In the republic, measures are being taken to develop a necessary storage base. However, there are still many bottlenecks here. Today, there are facilities for storing only 72 percent of the vegetables and potatoes, and for storing only 64 percent of the fruit. Half of these facilities are located in fixed up buildings without adequate mechanization and essential equipment. And, this is very costly.

In Tselinograd, storage facilities were built in a short time for almost 16 thousand tons, including 4.4 thousand tons with air conditioning. In addition, 20 vegetable stores have been put into operation. Today, there are bars and cafes here with units for cooling juices and cocktails. There is a wide selection of vegetables, potatoes and pickled food on the store counters all year round. Can't the situation be organized in the same way in the Guryev, Uralsk, Taldy-Kurgan, Chimkent, and Turgay Oblasts, where as early as the beginning of February there is no cabbage, carrots, beets, garlic or other vegetables for sale?

There are some positive shifts in animal husbandry. As was pointed out in the summary report at the Kazakh CP 16th Congress, the needs of the population for poultry and eggs are practically completely satisfied in the republic. However, there are many untapped resources in animal husbandry. At many farms, the cattle population grows slowly, morbidity is high, milk yields and weight gains are low, and the feed base is poor. At many sovkhozes and kolkhozes, the use of meat for intrafarm needs has not been properly organized. This pertains primarily to the Chimkent, Taldy-Kurgan, Kustanay and Turgay Oblasts.

Comrade M. S. Gorbachev has named the building up of meat resources as the priority problem of the 12th five-year plan; all areas of the problem have to be solved skillfully and urgently. The breeding of beef cattle, swine, sheep and horses has to be extensively developed, intensive technologies have to be actively assimilated, and high quality indices have to be attained.

At the conference, the need for improving the milk situation to comply with the Food Program was stressed. Mainly, milk purchases should be raised to 2,950 thousand tons by the end of this five-year plan. In this connection, we have to mention Alma-Ata in particular. In recent years, many decisions have been made there to improve the food product supply of the capital's population. Large capital investments and material resources were allocated to carry out these decisions. However, the goals of increased milk production and milk purchases were not met because of the oblast party committee's poor management. Managers of other oblasts also deserve this admonishment.

The store counter is the main showcase of the agro-industrial complex. For this reason, the attention of party, soviet, and economic organs should be focused on increasing the output of agricultural production, especially because good economic conditions for this are now being developed.

The most important problem in carrying out the Food Program is the implementation of a number of measures that are directed at increasing output, expanding assortment, and improving the quality of food products. Much is being done in this respect. Today, 1,800 enterprises of the food, meat and dairy, and pastry and bread baking industries produce 2,100 different food items which are worth 5 billion rubles.

By the end of this five-year plan, the republic has to increase the output of goods production in the food, meat, and dairy industries by 25 percent, in hulling and milling and combined feed by 15 percent, in the fish industry by 8 percent and in the consumer cooperative by 4 percent. The ways of solving these problems are known.

Let's take the meat and milk industry. One of the basic problems here, as in other sectors as well, is that raw materials are not fully utilized. Many labor collectives are conducting urgent work on the assimilation of no-waste technologies.

At the Alma-Ata Meat Combine, output worth 1,851 rubles is produced from the thorough processing of one ton of beef cattle, and at the Semipalatinsk Meat Combine--193 rubles less. It is not difficult to calculate that if this enterprise attained the same indices as the first enterprise, then the Semipalatinsk workers would produce an additional output worth 17 million rubles. Many dairy associations lack proper management as well.

Every year the meat industry of the republic produces a large number of second category subproducts. Their efficient use is an important source for increasing the meat resources. Only half of this output has to be sent for processing, and this is considerably less than in a number of other union republics. Patés, sausages, and headcheeses, prepared from these raw materials, are very popular with the population. Many first secretaries of the party obkoms try to "knock out" more marketable commodities to obtain more meat, while such a large resource is headed for oblivion. This pertains particularly to the Severo-Kazakhstan, Semipalatinsk, Uralsk, and Karaganda Oblasts.

Unfortunately, today not all enterprises of the meat and dairy industries have the opportunity to switch to no-waste technology. Shortages of production capacities and technological equipment prevent more complete and efficient utilization of the raw materials. Farms bear heavy losses because of failure on the part of sovkhozes and kolkhozes to receive cattle and milk immediately.

Supplying the republic's population with bread is a problem that we have basically solved. At the same time, many enterprises are carried away by the baking of huge breads to the detriment of medium and small sized loaves, are slow to improve quality, do not actively expand their assortments, and produce few of the ethnic bread products. The production of special products for diabetics, as well as for child and dietetic nutrition, is absolutely inadequate. Today, the milling plants still operate very irregularly. This pertains to the Alma-Ata, Guryev, and Kzyl-Orda Oblasts in particular.

The situation with vegetable oil production is bad. And, the main reason for this is that the Vostochno-Kazakhstan, Semipalatinsk and Pavlodar Oblasts fail each year in their plans to produce and prepare sunflower oil seeds, and in Chimkent Oblast--cotton seeds. As a result, the oil and fat industry the same as the sugar industry is forced to resort to raw materials that are shipped from other regions of the country.

The party obkoms, the oblast ispolkoms, the republic's Gosagroprom and its bodies locally are obligated to examine Food Program projects as a priority, and to strive for efficient use of capital investments. Also, the distribution of processing industry enterprises has to be improved, the enterprises have to be located closer to the raw material bases, and they have to be supplied with flow lines and equipment which will ensure thorough processing of production and raw materials. Assimilation of the newest refrigeration equipment at rapid rates as well as development of a network of cold storage facilities is important.

The party demands that we markedly accelerate scientific-technical progress in the processing sectors. However, even these problems are not solved everywhere in the proper way.

Today, our science should act as a catalyst of intensification. We

have the scientific strength, but its yield is poor. Gosagroprom and the Eastern Division of VASKhNIL (Comrades Gukasov and Medeubekov) should draw conclusions from the criticism, improve the quality of research, and strive for accelerated introduction of scientific developments into practice.

The private plot production of the population is one of the important resources for producing additional output. Today, private plot production represents a quarter of the total value of the gross agricultural production. The potentialities of private plot production are far from being fully used. So far in the republic, each fifth family living in a village does not have livestock for its personal use, almost every third family has cows, and every second family has sheep. There is a particularly large number of such families in the Taldy-Kurgan, Alma-Ata, Dzhambul, Severo-Kazakhstan, and Chimkent Oblasts.

Estimates show that if the number of cattle and poultry can be raised to an approved standard at the private plot farms, then production can be additionally increased; this means that purchases of surplus milk from the population will increase by a factor of 1.5, and the purchases of meat by a factor of 3. The duty of the party, councils, and economic bodies is to do everything to further the development of private plot production of workers and employees.

Collective fruit and vegetable gardening should be given a wider range. Today, the number of associations of individuals [tovarishchestvo] that we have has reached 2.5 thousand and they unite 17 percent of the city population. This is good. And, they produce a considerable amount of output. But, the purchasing of this output is unsatisfactory.

The consumer cooperative does much to put the Food Program into effect. At the same time, the cooperators did not fulfill the plan for purchases of meat, eggs, and vegetables. The opportunities were there, and they were rather good. The operation of the kolkhoz markets has to be radically improved, their services and amenities have to be organized, and necessary warehouses and commercial buildings have to be built. Sovkhozes and kolkhozes should be more extensively involved in trade at the markets. The experience of conducting a fair in Alma-Ata with the participation of the farms showed that market prices for vegetables and fruits dropped by 20 to 40 percent.

Recently, in the republic and locally a number of decrees have been issued to put the Food Program into effect. Many of these decrees are still unrealized because of "leaks" and poor management. It't time to reorganize. Every person should do his job. Without this the party committees will not have any organizational or moral action levers for improving the activity of economic staff personnel. The activity of the trade unions, komsomol, and People's Control organs should also be improved.

Restructuring in the area of APK economics requires that work on the social reorganization of the village be intensified. We should spend more time developing better conditions for the harmonious development of personality, we should steadfastly affirm the socialist way of life, and fully ensure the principle of social justice.

The work of the mass information media should be more active in solving the problems we have mentioned.

The people of Kazakhstan have now taken the responsibility to produce 29 million tons of grain. Work for successful preparation and organized carrying out of the spring field operations must be intensified. Preparation of personnel for mass assimilation of new technologies, which will now be employed on 5.4 million hectares, is very important. No less important is the problem of changing from different forms of initiative to the planned introduction of collective contracts so that the work in crop production can already be completely finished in 1986, and for livestock production by the end of next year.

12525
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AGRICULTURE

RSFSR GOSAGROPROM DEPUTY CHAIRMAN ON TECHNICAL SERVICES

Moscow EKONOMICHESKAYA GAZETA in Russian No 19, May 86 p 10

[Article by K. I. Suslov, deputy chairman of RSFSR Gosagroprom: "Criterion--The End Result"]

> [Text] K. I. Suslov, deputy chairman of RSFSR Gosagroprom [State Agro-Industrial Committee], speaks on the tasks and problems of the technical service of the APK [Agro-Industrial Complex] of the Russian Federation in the light of the resolutions of the 27th CPSU Congress.

The technical service of the Gosagroprom of Russia has been called upon to implement a unified technical policy within the framework of the agro-industrial complex and to ensure complete mechanization and electrification of all production processes, technical and transport service and routine and capital repair of equipment.

The measures specified in the decree of the CPSU Central Committee and the USSR Council of Ministers "On Further Improvement in the Economic Mechanism of Management in the Agro-Industrial Complex of the Country," considerably increases material interest, and to an equal extent the responsibility of the collectives of enterprises serving the kolkhozes and sovkhozes, for the achievement of high end results.

Therefore today the most important task of agro-industrial technical service is a thorough study of the new economic mechanism of economic operation, so that each worker, independently of what position he occupies and what work he fulfills, clearly establishes for himself the meaning and perspectives of the reorganization.

Community of Interests

In determining our current and future tasks, we depart from the program outlined for the entire agro-industrial complex of the republic. In this also appears the community of our interests. I shall cite this example.

This year Russia's farmers are cultivating in accordance with intensive technology green crops on an area of over 15 million hectares. According to the calculations of specialists, this will make it possible not only to increase considerably the production of grain but, which is especially important, to obtain grain of high quality.

As we know, introducing intensive technology requires new machines and work devices for cultivating implements. Either their series production has not been set up at all so far or they are supplied by industry in a limited quantity. The situation, which has grown complicated, has turned out to be, in its own way, an examination for managers and specialists of the newly created service. It must be said that most of them have passed it with honor, have shown persistence and initiative and have efficiently organized the reequipment and manufacture of over sixty descriptions of new machines and devices for series technology.

Intensive methods of cultivating green and other crops will also be used on a broad scale from now on. This means that more new devices are required for the existing agricultural machines. Many of our repair enterprises have developed their output. LOGIC SUGGESTS THAT THEIR PRODUCTION MUST BE PUT ON STREAM. BUT FOR THIS IT IS NECESSARY FOR US TO PLAN AND EXTRACT METAL. THEN THE TECHNICAL SERVICE ENTERPRISES WILL BE ABLE TO PROVIDE IN FULL FOR THE NEEDS OF THE KOLKHOZES AND SOVKHOZES.

Another problem, to the solution of which we should subordinate the efforts of all technical service subdivisions, is increasing the efficiency of using the existing potential. There is a tremendous reserve of technical and power capacities in the republic's agroprom. The tractor fleet numbers over 1.5 million units and there are a million trucks and over 700,000 various combines.

Unfortunately, in the last few years the operational potentials of the machine-tractor park at kolkhozes and sovkhozes have been by no means fully used. Last year, for example, the daily output per conventional tractor was 7.4 standard hectares in all. The point here lies not only in the quality of the new machines. The reason, it seems to me, lies much deeper.

In past decades the norms for operational periods of tractors and combines have been repeatedly revised, increasingly toward reducing them. As a result, the work life of the tractor has been cut in half in three decades. The state yearly increases capital investments for production and wastes more assets. THE TRUNCATED NORMS CREATE THE APPEARANCE OF WELL-BEING IN THE SPHERE OF PRODUCTION, REPAIR AND OPERATION OF THE TRACTOR-MACHINE PARK AND LEAD AWAY FROM THE SEARCH FOR METHODS OF USING THE EXISTING POTENTIAL MORE EFFICIENTLY.

Inquiries that have been made show that for approximately 20 percent of the working time the machines stand idle in the field due to organizational reasons and technical failures. Last year alone these downtimes throughout the republic constituted about 50 million tractor-days.

The problem of reducing input to maintain the machine-tractor park has become particularly pressing. There are many cases of an improvident attitude toward complex equipment. Operation has been set up unsatisfactorily and the frequency of technical maintenance and specified volume of operations are violated. Technical diagnostics have not become a determining factor in the state of the machines and equipment and in a reduction of input for operation. Payment for repair should be made with respect to the data from the diagnostics and residual motor potential. Demands on the quality of the work and professional training of technical personnel are increasing.

Unused Potentials

Analysis of the use of equipment in kolkhozes and sovkhozes shows that a considerable part of the downtime of the machine-tractor park is permitted not only due to poor quality repair but also due to incorrect operation of the equipment, particularly in winter. Technical service is, in the next two or three years, to solve the problem of building warm parking places for tractors operating in winter. In conversations with farm managers I have often heard: "We have all the tractors in operation in winter. So if they build warm garages, it is for the entire tractor park."

I venture to disagree with this statement. Yes, sometimes at a kolkhoz or sovkhoz all the machines are in operation. But pay attention to how they are loaded. Today one tractor is in operation and two are standing. Tomorrow it is the other way around. A more efficient course would be to achieve organization in using tractors in winter so that most of them would be shut down. Then the rest would operate with a full load. And so for this number of machines it is primarily necessary to have warm parking places at each farm.

The experience of leading kolkhozes and sovkhozes is convincing proof of the fact that all of these problems are easily solved where service of a machine yard has been created, the collective of which works under contract. The readiness of the machine-tractor park and the efficiency of its operation is always higher there. The farms, as a rule, are completely staffed with personnel and they observe technological discipline. Many farms in Rostov and Leningrad oblasts may serve as an example. No large additional investments are needed to create this service. The initiative of the workers and the desire to fulfill the entrusted business creatively are required.

An urgent solution is required to problems of economy and conservation of GSM [fuels and lubricants] and of secondary and multiple use of materials, all the more since they can mainly be solved through the efforts of the installation and start-up and adjustment organizations of the technical service.

A LARGE RESERVE FOR A RISE IN THE EFFICIENCY OF EQUIPMENT USE AND AN INCREASE IN LABOR PRODUCTIVITY IS THE CREATION AND WIDESCALE USE OF COMBINED UNITS FOR FIELD WORK, WHICH MAKE IT POSSIBLE, IN ONE PASS OF THE TRACTOR, TO FULFILL TWO OR THREE OPERATIONS. The machine's motor potential is used more efficiently, fuel is saved and the main thing--the topsoil is not packed down so much. Not only agronomists and soil scientists should think about this today, but also agroprom engineers. This is our overall task. There are many discussions concerning this among scientists and apecialists. Striving for a practical solution to the problem, however, is not particularly active.

Given the scale of our work, every blunder and procrastination in introducing advanced technology turns into tremendous losses for the republic. The creative attitude of every worker toward the matter, however, will undoubtedly give tremendous gain. I will cite these figures. IF WE COULD RAISE THE DAILY OUTPUT OF EACH TRACTOR AS A WHOLE PER SEMI-HECTARE, ABOUT 100,000 TRACTORS WOULD BE RELEASED AT THE REPUBLIC'S KOLKHOZES AND SOVKHOZES. THE STATE COULD SAVE A TREMENDOUS AMOUNT OF MATERIAL AND LABOR RESOURCES. This perspective merits putting maximum efforts into solving this problem.

In Russia's Gosagroprom system there are many examples of highly efficient use of equipment. On farms of Chelyabinsk Oblast, for example, they began to use the flow-cyclical method of carrying out the field work. The essence of it is maximal concentration of equipment on a limited number of simultaneously fulfilled operations. As a result, the productivity of the caterpillar tractors increased by 25-30 percent, and the daily output of MTZ tractors--by 50 percent. The productivity of the grain and feed-harvesting combines has risen considerably.

Unfortunately, despite a large number of seminars held on this subject, the flow-cyclical method has not yet been widely distributed in other rayons in the republic.

In all fairness, it must be said that recently interest in new advanced methods of organizing equipment use has picked up noticeably. For example, the agroprom technical service in Pskov Oblast started its activity from the fact that a strict revision of the machine-tractor park on all the farms had been made and the work places in the repair shops had been certified. On the basis of the data obtained, a precise program was worked out to improve technical service, repair and operation of tractors and agricultural machines. Many mechanical devices were revealed which had not been used for years and had simply been converted into unique storehouses of spare parts on wheels. They even found a justification for this kind of mismanagement--there are not, they say, enough machine operators to assign tractors to them.

It has now been decided to repair all this equipment and to create from it a unique reserve of machines ready to work. RAPO [Rayon Agro-Industrial Association] will use it to aid small farms in doing field work. This is a very efficient and wise initiative.

It would seem that a favorable time has come to organize the rolling of loading and road construction equipment, and at the same time the hire of these complex machines will cost much less than acquiring and maintaining them at the farms.

There are various ways to increase the efficiency of using the machine-tractor park. There is a great deal that we can do entirely by ourselves, but there are problems, the solution to which goes beyond the framework of our possibilities. I should like to draw attention to them.

As we know, for different soil and climatic zones in the republic a system of machines, equipment and various attachments--3,900 types in all--has been developed and confirmed. However, the output of only 2,000 type-items has been set up. The cost ratio of tractors to work implements is now one to two. A ratio of one to three should be optimal. That is why the farms cannot form the machine-tractor park structure necessary to ensure complete mechanization of all processes in agricultural production. Clearly there are not enough type MTZ cultivating tractors in the park structure.

Manufacture of many implements and attachments is completely through the efforts of the production subdivisions of the technical service in cooperation with industrial enterprises, especially since we have the experience in producing

such implements and devices. This work is hindered, however, by a shortage of resources. IT WOULD BE ECONOMICALLY JUSTIFIED TO PLAN, AS SPECIALLY DESIGNATED, APPORTIONMENT FOR OUR SERVICE OF A CERTAIN FREE LIMIT OF METAL, PIPES AND COMPLETE-SET ITEMS.

At the same time unnecessary obstacles to authorizing technical documentation for the manufacture of these mechanisms and devices must be removed. Such a measure will make it possible to stimulate initiative at the work places and to mobilize the search for efficiency experts and inventors to solve today's main problem--raising labor productivity in the rural areas.

A large number of material and human resources, which are not always used efficiently, have been drawn into repair and service production. Rhythm brings down the shortage of some (5-7 percent) spare parts, particularly for highpower tractors, new models of motor vehicles and complex feed-preparing machines, that is, promising equipment. It would be expedient for USSR Gosplan and the supplying ministries to give priority to the production of these precise spare parts.

An Untouched Work Volume

We have outlined a large program to shunt cattle breeding onto the rails of intensification. The yearly work volume for installation and technical service of mechanization devices at projects to maintain cattle and poultry and for feed preparation is 1.2 billion rubles.

It has already been specified in the present five-year plan that the level of mechanization in dairy cattle raising be brought to 90 percent and that over 10,000 farms with 3.3 million cows be put into operation and renovated.

Being widely introduced at farms are new advanced forms of organizing labor: a flow-line-shop system of producing milk, two-shift work for milkers and collective contracting. The organizational innovations also require, naturally, technical improvement of the farms and reliability of the equipment and power supply. We pay particular attention to the feed preparation. If the feed base undergoes major structural changes, keeping the feed should become the number one problem.

A specific task has been placed before the technical service planning organizations--to start out developing the technical part of modern highly productive feed shops and feed sheds. In addition, all the cattle breeding farms must be provided with electrically heated water, which will make it possible to reduce the fodder input to produce milk and meat. There must be machine operator ingenuity for small farms, particularly in setting up the distribution of feed and clearing facilities.

Enterprises of the food and meat-dairy industry occupy a considerable place in the RSFSR Gosagroprom system. The value of the active part of the production funds for these enterprises is 3.6 billion rubles. In 1985 alone 412 completely mechanized, automated and mechanized lines for the production of food stuffs were introduced here. Some 715 completely mechanized and automated shops and sections

were created. Last year 56,000 units of new equipment were installed. Nevertheless, the proportion of manual labor at these enterprises still remains quite high. There is therefore, for technical service here an untouched volume of work. A particularly unfavorable picture is formed in the use of existing equipment. There are cases when, due to the negligence and inefficiency of the managers and specialists, expensive domestic and imported equipment is not used in production, but lies in storage for years. Substantial assistance must now be given in preparing the enterprises for mass conversion of this year's production.

According to the estimates of specialists, almost a third of the labor input must fall to the share of transport work in agriculture. But expenditures for transport constitute 35 percent of the production cost. These indicators point to the fact that the efficiency of using motor vehicles in the agricultural industry leaves much to be desired.

The fact is that motor vehicle transport has so far been scattered: sometimes in a rayon one could count up to five to eight pygmy farm motor pools with a poor repair base. Hence there are frequent machine downtimes, and the absence of strict accounting for the use of the motor vehicles. In order to avoid these negative phenomena, it has been decided to form in the rayons RAPO motor vehicle combines which will serve the kolkhozes and sovkhozes, as well as the processing enterprises. The possibility will appear for concentrating a park of large-load and specialized motor vehicles and for wide scale development of centralized transport of loads.

An immense field of activity faces the agroprom technical service. We still have many various difficulties and unsolved problems. There is full assurance, however, that they will be successfully overcome.

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AGRICULTURAL ECONOMICS AND ORGANIZATION

RSFSR GOSAGROPROM CHAIRMAN ON REORGANIZATION TASKS

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[Article by L. B. Yermin, chairman of the RSFSR State Agroindustrial Committee: "The Tasks of Agroprom"]

[Text] There were many employees of the agroindustrial complex among the delegates to the 27th CPSU Congress. They were given this lofty honor for their initiative, creativity, and daring in their work. Major tasks were performed last year by crop farmers, animal husbandry workers, land improvement and agrochemistry workers, and scientists and practicioners; but the employees of agroprom [agroindustrial complex] face even larger and more important challenges in the 12th Five-Year Plan. They must ensure stable production growth and a dependable supply of food products to the population and agricultural raw materials to industry. Plans for 1986-1990 envision more than doubling the growth rate of agricultural production and securing a significant increase in per capita consumption of meat, milk, vegetables, and fruits.

The working people of the agroindustrial complex are constantly aware of national support and concern for them; the state is generous with spending for development of the sectors included in it and for solving rural social problems. The country's enormous economic potential makes it possible today to direct one-third of capital inventment to the sectors of the agroindustrial complex. It will receive another marked push ahead in the coming years too. A new administrative organ in the national economy with extraordinary powers -- Gosagroprom [State Agroindustrial Committee] -- has been formed to straighten out the work of the complex as a unified, economically balanced, and highly efficient system. A new, unified system has been formed and is being given all the fundamental, basic questions of realization of the Food Program. Realistic conditions have been created for deep integration of agriculture with processing industry and the service sectors.

The system of the RSFSR Gosagroprom took in 24,500 kolkhozes and sovkhozes, 1,720 okrug and rayon agroindustrial associations. 6,000 meat and dairy industry enterprises, 10,000 enterprises and organizations that serve agriculture, more than 4,000 construction organizations, and 155 scientific research institutions.

The administrative apparatus of the RSFSR Gosagroprom was formed on the basis of seven ministries and departments. It has a small number of integrated structural subdivisions: management of the production and processing of crop farming output; fruit, vegetables, and potatoes; production and processing of animal husbandry output; and, food sectors of industry. Unified services for mechanization and electrification,

transport support and material-technical supply of the agroindustrial complex, and capital construction were also set up. The republic's large agroindustrial complex was shaped. Its fixed productive capital is 245 billion rubles. This is one quarter of the assets of the republic's economy. More than 20 million people work in the complex. The agroindustrial complex also holds a fairly large share of gross output. Last year for example, according to preliminary figures (in current prices) the value of output was 227 billion rubles; 106 billion of this was accounted for by agriculture, 19 billion was food industry, and almost 21 billion meat and dairy industry.

In short, the RSFSR established a vast sector with enormous resources and potential, a sector that is capable of quickly and efficiently maneuvering with these assets, concentrating them in the crucial sections, ensuring real proportionality of development of all sectors of the agroindustrial complex and rapid return on investment, and solving urgent problems related to the production, processing, storage, transportation, and sale of output. The forces of the different elements of the agroindustrial complex were not simply added together; conditions and prerequisites were created for them to be significantly multiplied.

Beginning from the principles of the April and October 1985 Plenums of the CPSU Central Committee, the Politburo reviewed the proposals for further refinement of management of the country's agroindustrial complex. Gosagroprom was given broad rights and authority in the areas of planning, financing, and supplying material-technical resources in all elements of the agroindustrial complex; this is a very important condition for it to operate efficiently.

It is very important now to include all elements of the complex in active and harmonious work, to straighten out their mutual relations, and fully activate the economic mechanism of management and increase the interest of all elements in receiving better final results, so that substantial changes for the better can be achieved already this year.

We have everything necessary for this. During the 11th Five-Year Plan 136 billion rubles of capital investment were used for development of the agroindustrial complex, including 119 billion for the development of agriculture; this was 15 percent more than in the 10th Five-Year Plan. Deliveries of machinery and mineral fertilizer to the countryside increased. Large areas of improved land and modern production facilities were put into use.

Relying on the potential that had been created and despite the difficult weather conditions in many regions of the republic, during the last five-year plan the working people of agriculture and their partners in the agroindustrial complex were able to increase the production and sale to the state of agricultural products. The harvests of grain, sugar beets, sunflower, and feed increased. Growth in the production and state purchase of animal husbandry products was achieved.

The farms of Stavropol Kray, Leningrad, Tula, Vologda, and Tyumen oblasts, and the Kabardino-Balkar ASSR significantly increased the production of grain, meat, milk, and other output in 1981-1985. The animal husbandry workers of Krasnodar Kray, the Bashkir ASSR, and Moscow, Belgorod, Lipetsk, Sverdlovsk, and Gorkiy oblasts made weighty contributions to the overall achievements of the republic.

At the same time a number of oblasts, krays, and autonomous republics not only failed to increase the production of output; it actually decreased. The farms of Orenburg, Rostov, Voronezh, Saratov, Tambov, Penza, and Kurgan oblasts and Altay Kray decreased average annual grain production by more than 15-20 percent. The kolkhozes and sovkhozes of Ryazan, Orel, and Bryansk oblasts and the Bashkir ASSR regularly fail to fulfill the plan for production and procurement of potatoes. Year after year the farms of Volgograd, Novosibirsk, Ryazan, Kirov, Kalinin, Chita, Bryansk, Kaluga, and Novgorod oblasts do not meet their plans for sale of meat, milk, and wool to the state.

It goes without saying that we cannot remake the weather. And this means that we have to find more effective ways to achieve high yields and greater stability in crop farming. It is perfectly obvious that the traditional methods of raising grain crops cannot provide for the growing demand for grain.

As Mikhail Sergeyevich Gorbachev emphasized in the report at the 27th CPSU Congress, "We must improve the efficiency with which the production potential of the agroindustrial complex is used and concentrate our forces and means in the crucial sections, those which ensure the greatest return. Above all this refers to improving the fertility of the land and creating conditions for stable agriculture. As the experience of recent years has demonstrated, the key to success is broad application of intensive technologies. They produce an enormous impact. Last year alone the incorporation of such technologies made it possible to receive an additional 16 million tons of grain and a significant amount of other output."

More than 12 million hectares in the RSFSR were worked by intensive and industrial technologies in 1985. And as a rule, where all technological requirements were observed the yield was double that on ordinary fields.

We have everything necessary to double the area of cultivation of grain and other crops using intensive technologies in the near future and bring the total such area to 31-32 million hectares.

Within the program of measures to raise crop farming stability increasing attention is being devoted to introducing scientifically substantiated farming systems, incorporating crop rotations, and expanding the area of clean fallow which, it can be said, has already reached optimal dimensions and comprises 14.5 million hectares.

There have been numerous cases where grain harvests on correctly worked fallow land in dry years have been 2-3 times higher than for non-fallow prdecessors, and the quality of the grain was much better too. Unfortunately, we have not escaped without mistakes in this matter. Some oblasts, under the pretext of expanding fallow land and areas planted to feed crops on arable land, have reduced the area planted to grains improperly and have not made sure that the fallow land was carefully worked. As a result, the yield remained the same, or in some cases even declined.

Such a situation, of course, should not be tolerated. Intensive technologies, clean fallow, and other progressive farming practices should work toward the yield and increasing gross grain harvests. It is important to use every means to improve work with the land, raise farming sophistication, use fertilizers and plant protection means intelligently, and actively introduce the full set of measures envisioned by crop farming systems.

We should give special attention to organic fertilizer to restore soil fertility and maintain the humus balance. We must manage affairs so that the application of organic fertilizer is doubled in the near future. The production and application of liming materials must also be doubled. Comprehensive agrochemical development of fields will be done on a broader scale. Already this year these and other steps will help our republic increase the sale of grain to the state by at least 1.5 times compared to the average level of the 11th Five-Year Plan.

But the grain problem is not just a matter of increasing gross harvests. One of the ways to resolve it is seen in cutting the use of grain for forage. It is urgently necessary today to significantly increase the production of coarse and succulent feeds and substantially improve their quality. An important step in this direction is raising the yield of both tradition legume feed crops such as peas,. lupine, and alfalfa, and new high-stalk ones, above all rape.

We must continue work to improve the system for laying in and using coarse and succulent feeds and establish a reliable base for storing hay, silage, haylage, and root crops in order to increase their production by 1.5 times in the 12th Five-Year Plan.

The animal husbandry sector must be accelerated again from the very beginning of the 12th Five-Year Plan. Additional tons of meat and milk should result, above all, from precise, conscientious work, ability to manage the growing production potential of livestock farms and complexes properly, and precise observation of technological requirements. Intensification, whose ideas today permeate the work of all sectors of the national economy, is growing in importance in animal husbandry as well.

It is precisely underestimation of intensive technologiees (and only 13 percent of cattle are bred by this method today) which has led to a situation where the weight gains and grades of livestock remain low, the time for raising and feeding out young animals drags on to 2.5-3 years (instead of 18 months under the intensive technology), and expenditures of feed and labor to produce output are rising.

Considering that a large share of the rations of cattle is inexpensive coarse, succulent, and grain feeds, in most of the regions of the republic beef production should be primary so that it can increase by at least 1.3 times in the five-year plan. This will require each rayon to have specialized feeding-out farms and to develop beef cattle raising more extensively, above all by industrial crossing of low-productivity cows with beef breeds of bull.

We must make fuller use of the potential of such a perishable-product sector as hog raising, including production at ordinary kolkhoz and sovkhoz livestock units, at the auxiliary units of industrial enterprises and organizations using publicly produced feed, and in personal subsidiary operations.

We cannot be satisfied with the situation that has come about in sheep raising, expecially in the traditional sheep raising regions, where there has been a decline in the production of wool, mutton, and sheepskin. Decisive steps must be taken immediately, this year, to correct the state of affairs in this sector, bolster its material-technical base, especially the feed base, and do everything necessary to restore herd size in the immediate future.

In addition to further development of feeding operations for cattle, hogs, and sheep, steps must be taken to increase meat resources through the development of broiler poultry, horse, reindeer, and rabbit production, in both the public and the private sectors.

Increasing milk production continues to be an important problem. The Food Program determines that the main thing here is to increase animal productivity. In the 10-year period milk yield per cow should rise by 600-700 kilograms and milk production per capita must be increased to 380 kilograms. To reach these goals the kolkhozes and sovkhozes will have to increase milk production in the five-year plan by at least 1.2 times over the average annual level of the 11th Five-Year Plan. This will require a marked improvement in raising replacement animals, effective implementation of the policy of qualitative transformation of the herd, universal introduction of progressive production technologies and new forms of labor organization and payment according to final results.

It was observed at the 27th CPSU Congress that the most important source for replenishing food resources is reducing crop and livestock losses during the harvest, transportation, storage, and processing. This is a substantial reserve; the addition to consumption resources can be as much as 20 percent, and up to 30 percent for some types of output. Moreover, expenditures to eliminate losses are only one-half to one-third of expenditures for additional production of the same volume of output.

Now let us take up the subject of the lagging kolkhozes and sovkhozes, those which can and should produce much more output. Today, when we have significantly greater capabilities, the managers and specialists of the new administrative organs must thoroughly review the situation at every lagging farm and take effective steps to even out the economic and production conditions of economic activity so that these farms can become profitable within the next two years.

Further refinement of the economic mechanism of the agroindustrial complex is considered very important. The economic and other services of Agroprom should take steps, without waiting for orders and recommendations from above, to improve the planning and material-technical support of the agroindustrial complex on the basis of normative methods, straighten out mutual relations among sectors and with the budget, tie labor payment more closely to final results, and introduce cost accounting and transfer enterprises to work on the self-paying principle more broadly.

We must acknowledge that the republic has some experience in refining the economic mechanism. The Kuban Agroindustrial Combine in Krasnodar Kray is working under the new conditions; the Stavropol Broiler Association has been operating on the princples of full self-payment for more than three years; and an extensive economic experiment has been begun at all the farms of Stavropol Kray and Vologda Oblast as well as in six rayons of other oblasts and krays.

The essential feature of the experiments at the rayon level is that kolkhozes and sovkhozes are given the right to determine the volume of sale of agricultural output by themselves. The condition is imposed that sales not be lower than the average annual level attained in the preceding five-year plan. In addition, economic incentive is given for growth in state purchases.

The first phase of application of measures to refine the economic mechanism, which was carried out in Glazunovskiy Rayon of Orel Oblast, gave promising results. Work in this direction will continue. In the Political Report at the party congress Comrade M. S. Gorbachev said: "It is planned to give the kolkhozes and sovkhozes stable plans for state purchases of output by year, plans that will not change. At the same time they are being given the possibility of using all output beyond the plan, as well as a significant share of the planned output of potatoes, fruits, and vegetables, at their own discretion. The farms can make additional sales to the state, sell their output in fresh or processed form on the kolkhoz market or the cooperative trade system, or use it for other needs, including for private subsidiary operations. Above-plan sale of grain to the state is encouraged by additional allocation of highly desired material resources and by other measures of incentive."

It has become a vital need for most of the people working in the agroindustrial complex to rely on scientific advances. They are incorporating zonal farming systems and intensive technologies to whose development scientists made a decisive contribution. Practitioners have received a number of highly productive varieties and breeds. But there is still a great deal to be done, above all to significantly raise the level and efficiency of research and introduce its results rapidly. As noted in the decree of the CPSU Central Committee on the work of the Siberian Department of VASKhNIL, it is important to concentrate the forces and means of research institutions on efficient use of scientific and production potential. This decree names a whole series of major shortcomings. The Department was not able to take a leading part in working out proposals for intensification of agricultural production; it does not ensure timely introduction of research results into practice; and it shows little interest in deciding questions that are of fundamental importance for the region.

All these complaints could also be directed against the All-Russian Department of VASKhNIL, the academy's Department for the Non-Chernozem Zone, and many scientific institutions.

Practitioners do not need general reasoning, general approaches, and promises from the regional departments of VASKhNIL and their scientific centers; they need concrete technological solutions, intensive varieties and hybrids, high-productivity animals, and new, more effective forms and methods of economic influence to improve the state of affairs in agriculture and the other sectors of the agroindustrial complex.

Therefore, what we need on both the organizational level and in practical affairs is not half-measures but a fundamental restructuring, inclusion of science-production associations and other scientific subdivisions in the agroproms, a transition to forming plans on the basis of contract-assignments, and a consistent transfer of scientific collectives to self-paying principles.

The agroprom system today has a large contingent of experienced, knowledgeable managers and specialists. More than 700,000 specialists are working in agriculture alone, and one-third of them have higher education. The farms and production subdivisions are generally headed by highly qualified employees who care about the work. And in those places where stable cadres of managers and specialists have formed, there are also stable collectives, high crop and dairy yields, weight gains, and income, and successful performance of plans.

Unfortunately, this is not the case everywhere. Each year more than 3,000 kolkhozes and sovkhozes change chairmen; this is one of every seven managers. The replacement rate is particularly high in the Chechen-Ingush, North Osetian, Dagestan, and Buryat ASSR's and Kaluga and Saratov oblasts.

There are significant shortcomings in staffing the primary services of kolkhozes, sovkhozes, and interfarm enterprises with specialists. The engineering-technical and veterinary services are poorly staffed with specialists, and there is an acute shortage of accountants.

The process of providing educated specialists for the middle level of production is going too slowly. At the present time roughly 200,000 persons fill positions as managers of divisions, brigades, livestock units, shops, and production sections, and only half of them have specialized education. Work to raise their qualifications is inadequate. But these are the very cadres who stand at the sources of production, in the thick of the masses.

Soviet and economic organs and Agroprom should be absolutely guided by the party's orders on combining a careful and solicitous attitude toward cadres with principled exactingness in relation to them; they must constantly raise their qualifications, increase their practicality and responsibility, and make broad use of monitoring and checking on performance and of criticism and self-criticism, persuasion, and incentive. Employees should be evaluated by the stability of the results of their labor, how well they combine word and deed, and how state plans and assignments are fulfilled.

Additional steps must be taken to expand the training and retraining of cadres in the common occupations, approaching this matter from the standpoint of the requirements of scientific-technical progress. The machine operator should not be simply the operator of a machine; he should be a real grain farmer in the full sense of the word, with a good knowledge of the fundamentals of scientific farming and production technology. We must establish normal production and socio-domestic conditions for people's labor and off-duty time. In short, concern for cadres should be a focus of attention for managers at all levels of Agroprom.

The times demand that we raise the scientific level of economic management, strictly observe and tie sectorial interests with territorial ones, approach the work from a party and state point of view everywhere and in everything, and more boldly break down departmental barriers.

Unfortunately, we are receiving signals from the local areas to the effect that some managers yearn for independence and separation from the agroindustrial associations. This is seen particularly among construction workers and Selkhoztekhnia enterprises and organizations, and not just at the local level but also in republic subidivisions.

Such behavior by certain managers fundamentally contradicts the essence and spirit of restructuring management of the agroindustrial complex as a single integrated unit.

The results of 1986 and of the new five-year plan will depend decisively on how well and how quickly we can restructure the entire system of management. In short,

everyone without exception must begin working in the new way. Indeed, this is the purpose of restructuring and refining management of the agroindustrial complex.

Preparing enterprises of the food and processing industries and other sectors of the agroindustrial complex for the season demands constant concern and attention, particularly where there are still serious shortcomings and omissions in their work. These sectors are greatly in debt to the state for production of a number of valuable products. They were short about 100,000 tons of dry animal feed, 165,000 tons of whole milk substitutes, and a great deal of other output. The growth rate of labor productivity was significantly below the planned level.

Large losses of output in transportation, storage, and processing is especially disturbing. According to calculations by specialists, thousands of tons of raw material and a large quantity of sugar was lost just during last year's sugar beet harvest and processing season. The first things that must be done to prevent such losses are to straighten out the organization of receiving the output, prepare enterprises for work ahead of time, and raise production and technological discipline.

Significantly raising the quality of the output produced in light of current demands should become a special concern to food industry workers. Current demands are as follows: the population increasingly needs high-protein plant and animal products with improved nutritional and biological value, in a broad assortment, conveniently cut and well packaged.

In the near future we must strengthen the production base of processing enterprises with due regard for scientific-technical advances and take urgent steps toward more complete use of raw material resources, introduction of no-waste technologies, and bringing processing enterprises closer to the production point.

Taking advantage of the favorable conditions of the unified agroindustrial complex, managers and specialists of processing industry should fundamentally restructure their work, put all reserves and opportunities for increasing production into use, and ensure prompt, high-quality processing of the raw material that is received.

In short, we all must quickly reorient ourselves to working smoothly in the new way, at a new speed, and look at problem-solving from a unified standpoint, for from here on we are all equally responsible for final results. It is the duty and primary obligation of people working in the agroindustrial complex to celebrate the year of the 27th CPSU Congress with remarkable new labor accomplishments.

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TILLING AND CROPPING TECHNOLOGY

SCIENTIFIC APPROACH FOR IMPLEMENTING INTENSIVE TECHNOLOGY

Alma-Ata SELSKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 4, Apr 86 pp 15-16

/Article by M. Syleymenov, Corresponding Member of All-Union Academy of Agricultural Sciences imeni V.I. Lenin and director of the All-Union Scientific Research Institute of Grain Farming: "With A Scientific Approach"/

> /Text/ The journal completes its correspondence coun sel on the subject "Intensive Technology: Experience, Problems and Prospects" with this published selection. But materials on this important problem will continue to be issued in the future. It is requested that the specialists, the leaders of sovkhozes, kolkhozes and agroindustrial associations, scientists and field crop growers send in articles and letters concerning the introduction of progressive methods and leading agricultural practices in non-irrigated and irrigated farming and on their work and plans.

Experience has shown that, depending upon the prevailing weather conditions, the intensive technology makes it possible to obtain from 15-17 to 25-30 quintals of wheat per hectare from chernozem soils and from 12-15 to 20-22 quintals from dark chestnut soils. And this must be achieved through the use of a scientific approach and the introduction of leading agricultural practices.

The first condition for the stabilization of grain crops is the development of zonal farming systems. It is completely obvious that use of the intensive technology for cultivating spring wheat on two fields of a crop rotation plan cannot guarantee a normative increase in yield in those areas where crop rotation plans have not been mastered and there is no system for the use of fertilizer or for protecting plants against weeds, pests and diseases.

The foundation for any technology is the rotation of crops. Although a considerable amount of reliance is placed upon its first two fields, nevertheless the subsequent crops also require attention. It is generally accepted that the fields of an intensive technology consist of fallow and the first and second wheats following fallow. But such a situation does not exclude the possibility, or to be more correct, the need, for employing other good predecessor crop arrangements. Attention should be given to corn, annual and perennial grasses and to the pulse crops. The technological level for

the cultivation of these crops must be raised and they should be employed as good predecessor crop arrangements for spring wheat. During some years, the sowing of spring wheat following oats produces results. Last year, fine results were obtained in Kokchetav Oblast.

In any case, an attempt should be made to ensure that the technology is both energy-conserving and soil protective. This is promoted by combining operations. For example, an application of anti-wild oats herbicides with moisture conservation measures and intermediate, pre-sowing or even post-sowing working of the soil. The same can be said regarding local spring applications of fertilizer, which should not require a special run by a sowing machine but rather it should be combined with intermediate or pre-sowing cultivation.

Under drought conditions, the intensive technology must be moisture conserving during all stages. During the fallowing period, a maximum amount of moisture must be accumulated in the soil. This is not a simple undertaking. It is almost impossible in the absence of a windbreak strip. Thus, special attention must be given to the creation of windbreak strips on fallow fields. This requires the development of a technology for the creation of windbreak strips and the correct positioning of them taking into account the direction of the slope and the carrying out of deep loosening of the fallow in the autumn. If this is not done, the weediness of the fields and water erosion will increase.

Fertilization is a chief factor with regard to intensification in the cultivation of spring wheat. Based upon studies, the recommendation was made to apply phosphorus mineral fertilizer to fallow fields in a dosage of 60 kilograms of active agent per hectare and at a depth of 12-14 centimeters. Last year this was done during the pre-sowing period using a sowing machine or on the surface. Observations have underscored the high effectiveness of mineral fertilizer applications by a sowing machine to a depth of 10-12 centimeters prior to sowing. The increase in yield reached 2.6 quintals of wheat per hectare. When this same dosage was applied in the form of a top dressing, the increase amounted to only 0.8 quintals. Hence, a spring application of a complete dosage of phosphorus fertilizer using SZS-2.1 or SZS-2.1L sowing machines is fully possible, but it should not be carried out to a greater depth than subsequent seed placement. The distribution of mineral fertilizer on the soil's surface, during both the spring and summer, should be forbidden -- it is better to use the row method. During the spring, only row applications of phosphorus fertilizer should be employed on dark chestnut and all light textured soils.

At the same time, mineral fertilizers should be employed more persistently during the fallowing period. Definite progress is being made in this regard: in Kustanay Oblast, 400,000 hectares were fertilized in behalf of this year's harvest, in Tselinograd Oblast -- 356,000, in Kokchetav Oblast -- 238,000 and in North Kazakhstan Oblast -- 168,000 hectares, or 67, 70, 43 and 67 percent respectively of the fallow areas on which the intensive technology is being employed. However, every attempt must be made to ensure that the mineral fertilizer is applied to the soil and not just distributed over its surface.

One reason for the shortfall in grain yield in the northern oblasts of the republic last year was the fact that nitrogen-phosphorus fertilizers were

applied to the fallow fields instead of phosphorus fertilizers and this resulted in a non-ripening of the grain in a number of regions. Thus the deliveries of phosphorus fertilizers to these regions must be increased and they must be made available to them not later than the third quarter; it will then be possible to apply the fertilizer to all of the fallow fields in a timely manner.

Last year, an extensive production check was carried out on the anti-wild oats herbicides Evadex and Trialate. They proved to be highly effective in all areas owing to the fact that hundreds of units based upon needle-shaped harrows and shallow plows had been prepared on the farms for carrying out the application and immediate placement of the herbicides. This year, the use of these herbicides must be continued in accordance with the technology worked out. At the same time, exactingness with regard to observance of the agrotechnical measures for combating weeds, particularly on fallow fields, should be raised.

Thus, on contaminated fields, especially where there are fine supplies of moisture, complete and healthy seedlings must be obtained by using shallow seed placements in the soil and the belt or cross method of sowing. On fallow land in the mountainous and mud-volcanic zone, a complete conversion must be carried out over to the use of CPZ-3.6 sowing machines with hoe coulters. A decision with regard to the production of these coulters was handed down two years ago. The republic's Gosagroprom must ensure deliveries of the CZP-3.6 in the required variant. Moreover, they should be available in numbers which will ensure the sowing of fallow land in the chernozem zone.

In northern Kazakhstan, great harm is being inflicted upon spring wheat by such pests as the grey grain cutworm, grain flies, greenbugs, wheat thrips, grain leaf beetles and grain stalk fleas. With the exception of the cutworms, almost no campaign is being waged against these pests. Thus, all work concerned with protecting plants against pests and diseases must be raised to a higher level. This applies to the scientific institutes, the plant protection service and to the agronomic staff of a farm.

Of the wheat diseases, root rot and loose smut are most widespread. The chemical treatment of seed using contact preparations is being carried out against the causative agents of these diseases. The spring wheat diseases are more harmful; they appear rarely -- once every 8-10 years. As a rule, this occurs during years considered to be more favorable from the standpoint of moisture and the grain harvest sustains tremendous damage. Last year, on a portion of the territory in the northern oblasts, the infection of spring wheat by helminthiosis leaf blight and septoria spot was noted. The development of these diseases was influenced by the damp and warm weather. As a result, the grain turned out to be puny. This was promoted by the development of a complex of suctorial pests which inflict damage upon wheat.

At the present time, there are effective fungicides for use against septoria spot -- Tilit and Bayleton and also the disinfectant Bayten-universal. It should be borne in mind that the disease is transmitted through the seed and post-harvest plant residues and thus the sowing of contaminated seed cannot be tolerated.

On the whole, seed plays an important role with regard to achieving high yields. But recently, in a number of areas, less importance has been attached to preparing high quality seed. This is a serious mistake. The intensive technology for cultivating grain crops requires exemplary seed production operations.

A selection of plastic varieties capable of ensuring high grain yields under all types of weather conditions is required in order to achieve a stable grain economy. The Saratovskaya 29 spring wheat variety has been demonstrating such stability over an extended period of time and it has proven its suitability for intensive technologies. Of the midseason ripening varieties, Irtyshanka appears to hold promise in North Kazakhstan Oblast and in the mountainous-mud volcanic zone -- Tselinnaya 60 variety.

Of the midseason to late ripening varieties of wheat, Tselinnaya 21 is the most resistant. Although its evaluations are contradictory, it can nevertheless produce fine results when its characteristics are correctly taken into account. For example, last year the highest cereal grain yield in Tselinograd Oblast (22.6 quintals per hectare) was achieved at the Tselinograd Association for Poultry Production, where only Tselinnaya 21 was sown.

Of the durum wheats and excluding Bezenchukskaya 139, the Altayka variety is producing fine results in the northern part of the republic. At the Voskhod Sovkhoz in North Kazakhstan Oblast, its average yield from an area of 1,000 hectares was 29.7 quintals per hectare, or 7.1 quintals higher than the soft wheat yield. Thus the sowings of durum varieties must be concentrated in regions of the republic considered to be more favorable from the standpoint of moisture.

It is difficult to determine accurately the effectiveness of the intensive technology from a production standpoint, since a special analysis is not being carried out. According to data accumulated over a period of 2 years by our institute, the increase in grain yield from the use of this progressive method in experiments amounted to 4.5-5 quintals per hectare and in production -- from 2 to 4 quintals. Everything is dependent upon the degree to which the technology is mastered and this is largely associated with the organization of labor. Although from 75 to 85 percent of the brigades which employ the intensive technology in the oblasts of North Kazakhstan were converted over to the collective contract, the effectiveness of their work is not high in all areas. But there are still many fine examples which underscore the reserves that are available.

At the Voskhod Sovkhoz in North Kazakhstan Oblast, the best indicators were achieved by the Stepanenko brigades: the son obtained 29.2 quintals of wheat per hectare and the father -- 25.6 quintals. At the Vishnevskiy Poultry Association in Tselinograd Oblast, the brigade of A.I. Trenenkov obtained 20.5 quintals of grain per hectare. This was twice as high as the average indicator for the rayon. The highest spring wheat yield from use of the intensive technology was obtained at the Karabalykskaya Experimental Station -- 28.5 quintals. In Kokchetav Oblast, the farmers at the Zlatopolskiy Sovkhoz distinguished themselves by obtaining 22.2 quintals per hectare.

Concern must be displayed on all of the farms for ensuring that wheat cultivation using the intensive technology is carried out by efficient contractual brigades, which back up their promises with action. This will make it possible to restore order out on the intensive fields and to observe in a strict manner the scientific recommendations and technological discipline, which undoubtedly will be reflected in an increase in cropping power and in the gross yields of high quality grain.

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TILLING AND CROPPING TECHNOLOGY

IMPLEMENTATION OF INTENSIVE TECHNOLOGY FOR GRAIN CULTIVATION

Moscow SELSKAYA ZHIZN in Russian 18 Apr 86 p 2

[Article by N. Milashchenko and A. Pukhalskiy, academicians at the All-Union Academy of Agricultural Sciences imeni V. I. Lenin: "An Overall Approach Is Needed"]

[Text] As is well known, the 27th CPSU Congress paid special attention to a broad introduction of intensive technologies of cultivation of grain and other agricultural crops. The experience in their application in the country's various zones has shown that these technologies serve as a reliable basis for a rapid rise in the yield and for an increase in gross grain output. The average yield of winter grain crops on fields with intensive technology in the Russian Federation, on the average, was 9 quintals per hectare higher and with a technological track, which makes it possible to apply pesticides promptly and better and fertilizers, partially during the period of plant vegetation, 12.7 quintals. In the Ukraine the increase in the harvest totaled 10.3 and 16 quintals, respectively. On farms, where the introduction of these technologies was approached competently and with great responsibility, the results were even better. For example, on the experimental model farm of the Ulyanovsk Experimental Station the harvest of winter wheat cultivated according to intensive technology was 61 quintals per hectare and of rye, almost 50 quintals. At the Drabov Experimental Station of the Ukrainian Scientific Research Institute of Farming winter wheat grown according to intensive technology on 500 hectares, on the average, produced 57.6 quintals of strong grain, as compared to 38.6 quintals on fields with ordinary technology.

In Omsk Oblast last year spring wheat was grown according to intensive technology on an area of 1.1 million hectares. As a result, despite the drought, almost 6 quintals of grain per hectare more were gathered there, on the average. At the same time, 21 rubles were additionally spent per hectare, while the value of additional output totaled 76.4 rubles.

However, analyzing the experience in the application of intensive technologies, pluses, as well as minuses, should be taken into consideration. On many farms the yield of grain crops cultivated according to intensive technology was lower than expected. As a rule, the fact that measures for mastering zonal farming systems and protecting soil against water erosion and

crops, against diseases, weeds, and pests were not fulfilled was the reason for the above.

With regard to the control of water soil erosion, we consider it once again necessary to recall that the technological track envisaged by intensive technology should be established only on fields with a slope of no more than 3 degrees. Under no circumstances should its laying along slopes be permitted. Otherwise, erosion processes will be only aggravated. Unfortunately, this fact was by no means taken into consideration everywhere.

In many places optimal periods of execution of agrotechnical methods have not been observed and other breaches of technological discipline have been tolerated.

Semidwarf intensive-type winter wheat varieties meeting the requirements of modern technologies have become widespread in a number of the country's zones in recent years. The assortment of early and middle-early ripening corn hybrids has also been replenished significantly. However, we still poorly utilize the potential of these varieties and hybrids. In many cases their harvest is two-thirds or one-half of the possible one. Yet we have many winter wheat varieties capable of yielding 90 to 100 quintals per hectare. They include odesskaya polukarlikovaya, polukarlikovaya 49, obriy, and donskaya polukarlikovaya. Donskaya bezostaya, krasnodarskaya 58, zirka, and others yield up to 90 quintals per hectare. Spring wheat also has varieties capable of yielding harvests of 50 to 60 quintals per hectare against a high agricultural background. They are omskaya 9, sibakovskaya 3, tyumenskaya 80, irtyshanka 10, and vera. Moreover, spring durum wheat varieties, such as altayka, almaz, bezenchukskaya 139, and orenburgskaya 2, have a yield potential of more than 40 quintals per hectare.

Unfortunately, the presently existing system of state strain testing has become obsolete and does not promote a more rapid selection of varieties suitable for intensive technologies. Their initial seed breeding begins too late. As a result, by the time of regionalization of selection novelties an acute shortage of seeds is felt and their introduction extends over many years. The lack of suitable varieties for intensive technologies in a number of the country's zones does not make it possible to fully utilize their capabilities. For example, Siberia needs more early ripening varieties capable of forming the harvest during a short frost-free period. However, at the state strain testing network varieties are selected basically according to the biological harvest, which, of course, is higher in later-ripening varieties.

The situation requires an improvement in the entire system of evaluation of new varieties and their initial seed breeding. In the interest of this cause we consider it advisable to organize at selection and technological centers state strain testing plots for testing an expanded set of new varieties. Only by overcoming the lack of coordination in the activity of the state strain testing network and selection centers and closely coordinating their work is it possible to greatly shorten the periods of testing new varieties and to speed up their departure for intensive fields.

Instructive experience in an accelerated testing and reproduction of seeds and in a rapid introduction of new varieties has already been accumulated at some selection centers. The example of a rapid reproduction of omskaya 9 spring wheat at the Siberian Scientific Research Institute of Agriculture is known widely. During the year of regionalization it was sown on 108,000 hectares, during the second year it occupied 380,000 hectares and during the fourth year it was sown on several million hectares in the region. Such a system can and should be mastered by all the selection centers in the country. Its essence lies in the fact that the reproduction of a new variety begins 5 or 6 years before its regionalization. An all-around check of selection samples in the competitive strain testing of a selection center in combination with their extensive ecological testing on kolkhozes and sovkhozes of various soil and climatic zones serves as the basis for this.

It is also necessary to improve the intensive technologies themselves as applied to every zone. As is well known, this work has been entrusted to technological centers organized in the country's basic grain producing regions. These centers should determine the technological policy in their zones, of course, jointly with zonal scientific research institutions, oblast and kray experimental stations, and farm specialists. The scientific and methodological guidance and coordination of the activity of these centers in such matters as chemicalization, plant protection, and work mechanization have been entrusted to the VIUA [All-Union Scientific Research Institute of Fertilizers and Agronomical Soil Science], the VIZR [All-Union Scientific Research Institute of Plant Protection], and the VIM [All-Union Scientific Research Institute of Mechanization of Agriculture]. The network of the Central Institute of Agrochemical Services for Agriculture, chemicalization stations, agricultural higher educational institutions, and other scientific institutions also can and should provide great assistance in the improvement in intensive technologies.

First of all, about the effectiveness of fertilizers. Experience confirms that it is possible to obtain no less than 7 kg of grain per kg of mineral fertilizers applied correctly and on schedule (of course, in combination with other chemicalization agents and with good agrotechnology). Intensive technologies of cultivation of wheat and other grain crops, for which big areas of clean fallow are allocated, make it possible to obtain a full return on fertilizers.

Naturally, fertilizer doses should be strictly differentiated with due regard for the characteristics of the zone, the grown crop, and the condition of the agricultural background. The application of mineral fertilizers "by eye" must be avoided. Nevertheless, in a number of places doses of applied mineral, especially nitrogenous, fertilizers are often overstated, which only prolongs the periods of vegetation of plants and contributes to their lodging. This was allowed in a number of regions in Siberia and in some other zones in the country last year.

At the same time, intensive technology envisages the application of nitrogenous and other fertilizers in higher doses, but the methods of their application are determined in a new way. Whereas previously crops were topdressed with nitrogen only in early spring, as a rule, new technologies are

based on its split application during different phases of plant development. This is possible with a technological track. Topdressing during the period of development of grain crops, especially before the formation of the first node, increases the coefficient of utilization of nitrogen by plants and, therefore, their yield as well. Topdressings during later periods also improve the quality of grain. In the nonchernozem zone and in a number of regions in Siberia last year grain cereal crops lodged, because such an important technological method as the treatment of crops with retardants was neglected there.

Numerous experiments both in our country and abroad attest to the high effectiveness of an overall application of chemicalization agents. For example, during the 3-year research at the Central Experimental Station of the VIUA, owing to an overall application of fertilizers, pesticides, and retardants, it was possible to raise the harvest of winter wheat from 25 or 30 quintals per hectare to 55 or 60.

In connection with the frequent and considerable deviations of the weather from average long-term indicators the periods of appearance of plant pests and diseases change markedly. This requires a more reliable and efficient forecasting. Unfortunately, this service still functions in an unsatisfactory manner. To make it accurate and efficient is the most important task of the specialists of the Scientific Production Association for Agrochemical Services to Agriculture.

The development of plants depends on many factors, including the whims of the weather. This means that the agronomist, brigade leader, and machine operator must possess the necessary knowledge in order to competently countervail them. Primarily collectives of scientific research and higher educational institutions jointly with specialists of the agroindustrial association are obliged to provide this knowledge.

When training and retraining personnel and teaching them new technologies, it is necessary to take advantage of the experience in their application on the best experimental model farms, educational farms, and advanced farms. Technological centers, zonal institutes, and experimental stations are to play a special role. Their task includes not only the development and production check of zonal intensive technologies, but also the training of personnel, which will have to implement them in practice on fields. The success of this cause largely depends on the creative mastering of advanced forms of management, especially the brigade contract, and the interest of every worker.

11439
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TILLING AND CROPPING TECHNOLOGY

IMPLEMENTATION OF INTENSIVE TECHNOLOGY IN KAZAKHSTAN

Alma-Ata NARODNOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 10, Oct 85 pp 29-31

/Article by A. Zadorin, chief of the Main Administration for Science and the Introduction of Scientific-Technical Achievements Into Production of the Ministry of Agriculture for the Kazakh SSR: "Intensive Technologies -- Into Production"/

/Text/ The workers of Kazakhstan, similar to all Soviet people, are today living in an atmosphere of great labor enthusiasm brought about by the active preparations for the forthcoming 27th Congress of the Communist Party of the Soviet Union.

Active measures are being undertaken aimed at searching for and placing in operation all available reserves for raising production efficiency and the quality of products and for converting all branches of the economy over to the intensive path of development.

In solving this large-scale task, the party is attaching decisive importance to accelerating scientific-technical progress. Such a program is of special importance to agricultural workers in view of the fact that almost all agricultural production throughout the republic is being carried out under unfavorable conditions. Thus the area for grain production is located in the steppe and dry-steppe zones, which have an annual precipitation of 300-370 mm, compared to the corn and wheat belt of the U.S.A. and Canada which is located in a region having an annual precipitation in excess of 450 mm. During the mastering of the virgin lands in Kazakhstan, it was by no means an accident that some skeptics claimed that it was impossible to achieve stable grain production here since it is a region of risky farming. Experience has rejected this forecast. The republic has become an acknowledged grain area of the country.

To a large degree, this became possible owing to science and the conversion over to soil-protective farming, which makes it possible to utilize considerably more effectively the arable land and the scanty resources and moisture found here. The drought conditions during four years of the current five-year plan were more severe than those experienced during the 1961-1965 period. However the grain yield amounted to 8.3 quintals per hectare, whereas prior to the introduction of soil-protective farming it was 6.1 quintals per hectare.

The system of soil-protective farming is presently undergoing improvements in conformity with the climatic peculiarities of the zones and sub-zones and solutions are being found for the problems concerned with its intensification. In this sense, the chief trend continues to be the task concerned with a maximum accumulation and productive use of moisture.

Under conditions involving insufficient and unstable soil moisture, clean fallow is considered to be fields on which moisture supplies and nutrients are accumulated in a fine manner and weeds are destroyed. It is on such fields that the conditions required for the intensive production of high quality grain are created. According to observations carried out over a number of years by scientific institutes and leading production workers, the productive supplies of moisture prior to the sowing of grain crops and following fallow fields are higher by 20-40 percent than for other predecessor crop arrangments.

In this regard, very serious measures have been undertaken throughout the republic aimed at increasing the fallow fields in a scientifically sound manner.

At the present time, the republic's fallow fields occupy 5.3 million hectares (14 percent of the arable land). Strong and valuable varieties of wheat are also being grown, as required by science, on fields following row crops and perennial grasses. In behalf of this year's harvest, their sowings following fallow have been carried out on an area of approximately 4 million hectares and overall, following the best predecessor crop arrangements, on an area of 9 million hectares (or 60 percent of the overall area sown in this crop). For the most part, the sowing of wheat this year was carried out during the best periods, using rod sowing machines on well prepared land that was worked using sweep-cutting implements.

The intensification of grain production calls for an expansion in the use of chemical means. In recent years, as a result of attention by the party and government, a planned increase has been taking place in the deliveries of mineral fertilizers. This year the plans call for twice as much fertilizer to be supplied as was made available in 1980. During this period, the supply of fertility vitamins for the principal grain growing oblasts increased in Kokchetav Oblast by a factor of 4.6, Kustanay Oblast -- 3.6, Turgay Oblast -- 4.3 and in Tselinograd Oblast -- by a factor of 4.4.

The increase in the proportion of clean fallow and in fertilizer deliveries made it possible to convert over to the cultivation of spring wheat using the intensive technology on an area of 4.6 million hectares in nine oblasts and 86 rayons and on 1,822 farms. The entire area has been assigned to teams and brigades which operate on a collective contract basis.

Wheat has been planted following fallow on an area of 2.4 million hectares. A complete dosage of fertilizer was applied to 2 million hectares and, simultaneous with the sowing of the seed, 20 kg of phosphorus were applied per hectare of arable land on an area of 2.6 million hectares. Overall, the wheat sowings were fertilized on an area of 9.7 million hectares (or 64 percent).

The intensive technology is being employed mainly on those farms and in those rayons where there are better supplies of moisture, where there is a high level of production culture and where there are experienced personnel.

The preliminary results of the harvest provide the basis for assuming that the hopes for the intensive technology will be justified and that 2.6-2.8 million additional tons of grain will be obtained. This year the progressive methods for cultivating wheat produced an increase in yield of up to 9 quintals per hectare on a number of farms in Kokchetav, Kustanay, North Kazakhstan and other oblasts.

It should be emphasized that the use of new farming methods in Kazakhstan has its own particular peculiarities. Actually, the soil in the principal grain growing oblasts has only a weak supply of phosphorus. The fallow fields contain up to 100 or more milligrams of nitrates per kilogram of soil and the phosphorus content is only 9-12 milligrams (or the ratio of nitrogen to phosphorus is 10:1). Hence, one method for intensification is that of achieving a balance in the nitrogen-phosphorus ratio through applications of pure phosphorus fertilizer: complex nitrogen-phosphorus fertilizers intensify an imbalance and do not furnish a proper return.

Optimum fertility vitamin rations make it possible to raise considerably the productivity of a fallow field and to make more productive use of accumulated moisture. Thus, according to data supplied by the Kustanay Scientific Research Institute of Agriculture, over the past 5 years the average spring wheat yield following clean non-fertilized fallow was 18.1 quintals per hectare, following fertilized fallow -- 20.8 and following windbreak strip fertilization -- 23.4 quintals per hectare.

Over a period of 14 years (1968-1981, the average consumption of moisture per quintal of product following windbreak strip fertilized fallow amounted to 13 millimeters, following a second crop after fallow -- 16 and following grain predecessor crops -- 20-25.1 millimeters (or twice as much as that following fallow). Thus each kilogram of phosphorus (in active agent) applied to windbreak fallow furnishes up to 25 additional kilograms of grain.
Even during the past year, a very dry one for Kustanay Oblast, fallow fields which were topped off with phosphorus at the Karabalyk Experimental Station produced yields of 24-26 quintals per hectare (compared to an average farm yield of 13.9 quintals per hectare). It should be emphasized that phosphorus fertilizers accelerate the ripening of grain by 5-7 days, a factor which is of considerable importance to the northern oblasts which have a short growing season.

The republic's farms are devoting serious attention to tending their crops and keeping them free of weeds -- this also promotes growth in the wheat yields. In addition to agrotechnical measures for combating weeds, chemical weed control work has become mandatory. This year, 13.8 million hectares of plantings were treated, including 3.3 million hectares on which grain crops are being cultivated using the intensive technology.

However, approximately 4-4.5 million hectares on farms throughout the republic are still contaminated by wild oats. According to estimates by scientists, the crop losses caused by this vicious weed amount to from 23 to 80 percent. Thus the herbicides Trialate and Avadex were employed on an area of 446,000 hectares this year. The results of work carried out have shown that from 87 to 95 percent of the wild oats are destroyed when these preparations are used in a correct and timely manner.

Use of the intensive technology will be expanded substantially in 1986. It will be used for cultivating the following: spring wheat on an area of 5 million hectares, corn for grain -- on 135,000 hectares, millet -- on 200,000 hectares and rice -- on 120,000 hectares. It is expected that use of this method will produce 3.3 million additional tons of grain. A number of rayons and farms have been singled out for use of this method and a plan for planting the crops in crop rotation plans is being defined more precisely. Complete dosages of mineral fertilizer have been applied to 818,000 hectares, approximately 8 million tons of organic fertilizer have been moved out onto the fields and the sowing of windbreak strips has been carried out on an area of 1.2 million hectares.

At the same time, it bears mentioning that fertilizer applications are being held up by a lack of equipment. There is a shortage of machines for belt applications for placing the mineral fertilizer at a depth of 14-16 centimeters, machines for intra-soil applications and special drill coulters for row applications. There are still fertilizer shortages -- the plant deliveries have been short by approximately 30,000 tons.

An increase in the stability of grain production requires stronger organizational work within the agroindustrial complex system, including within those ministries and departments the enterprises of which produce fertilizers and the machines for applying them.

The agrarian sector must further improve the structure of the area under crops so that, with no reduction in the spring wheat areas, it will be possible to realize increases in the yields of pulse, groat and forage crops.

A great amount of work remains to be carried out throughout the republic in connection with the development of solonetz lands. This will make it possible to plant a portion of the forage crops on them and to make arable land available for grain crops. As a result, the fallow fields will be expanded. It is unfortunate however that the further development of solonetz land is being held up by a lack of specialized land reclamation equipment.

Production intensification is inseparably associated with science. The kolkhozes and sovkhozes require highly productive agricultural crop varieties and hybrids which are resistant to pests and diseases, highly productive energy and resource-conserving technologies and effective means for protecting plants. Varietal selections promote improvements in the quality of the grain. The sowings of such wheats as Tselinnaya-21, Omskaya-9, Saratovskaya-42, Almaz and Bezenchukskaya-39 are being expanded throughout the republic. At the same time, all is not going well in seed production. For example, the area sown in new varieties increased threefold during 4 years of the current five-year plan, but their proportion still amounts to only 25 percent and the principal areas of spring wheat, just as in the past, continue to be occupied by the Saratovskaya-29 variety.

There is also another problem. The development of solonetz lands must not end with just a one-time cultivation. During the course of their agricultural use, it will be necessary to introduce special crop rotation plans with a reclaimed field on which recultivation work is carried out periodically. The task of science is to develop a technology for the efficient carrying out of feed production work on solonetz soils.

During the 18th Plenum of the Central Committee of the Communist Party of Kazakhstan, it was noted that our overall task consists of achieving better management and of realizing better results from our work today than yesterday. In this regard, special attention is being given to those problems concerned with accelerating scientific-technical progress, ensuring the development of new equipment and progressive technologies and persistently introducing scientific achievements and leading experience into operations.

A great deal has already been accomplished. The collective contract and cost accounting procedures are producing great results in field crop husbandry. During harvest operations, extensive use is being made of the multiple-trailer and batch methods for transporting grain and many other progressive methods and innovations.

Scientific-technical progress in the agrarian economy is promoting an increase in the production of agricultural products, in improving their quality, the successful implementation of the Food Program this year and the establishment of a strong foundation for the 12th Five-Year Plan.

7026
CSO: 1824/333

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